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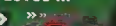
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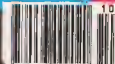
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STREET FIGHTER 2 • FIRST LOOK SHOTS
AND EXCLUSIVE PREVIEW • AMOS 2 REVIEWED

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TURBO PUT TO THE TEST • NEURO PRO v2 • PUTTY • BAT 2 • 3D POOL



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AMIGA CONTENTS



28 CD EXPLOSION

Are CD-ROM drives true multimedia engines or just media hype? How many different standards are there? Which system is best anyway?

For once there should be more answers than questions as CU boldly steps into the maelstrom of the fastest growing area of computing. With the growing number of CD formats and players vying for position in what could become the most important sector of the home entertainment market, we lift the veils and attempt to get behind the marketing concepts, separating fact from fantasy and letting you know exactly what is and isn't possible.

As well as investigating the promises of the CDTV we will be taking a look at the wide range of CD capable machines around. Accompanying these insights into the lives of these players will be a number of short reviews of the titles currently available for them – both entertainment and educational. Although these lists are by no means exhaustive they are no less useful for that.

If you want to know what the future of computing holds, turn to page 28.

OFF THE CUFF

EDITORIAL



Dan Singhal

As the flash-top laptops were being put to the test in CU Amiga, news reached us from the World of Commodore Show in Pasadena that the new A4000 would...

...machine has just been released. Unfortunately, we haven't got a picture of this new machine as yet (an apologetic Commodore US press office hadn't bothered to take any!), but we do have the official technical specifications which we are reproducing in full on page seven. For sure you'll agree that this new machine represents an impressive step forward by Commodore and I'm already salivating at the month in anticipation of putting a model in for review. Quite why no prior announcement of the launch was made by Commodore will have to remain a mystery. It's rather annoying, though, as we could have had a representative at the show (i.e. me) to name the launch and drink copious amounts of alcohol at someone else's expense).

Speaking of birthdays, I haven't had one this year, mainly due to unexpected staff departures. I guess I had the idea, indeed, there's only been two at me putting this issue to bed, which has been a nightmare to produce. In fact, I think I'm done a pay rise for all the hard work I've put in over the last few months – what do you think? If you agree, please write to me Gary Williams, telling him to give me as big a rise as possible. The writer of the last letter will win a crate of Snodgrass courtesy of my back issues.

But anyway, I mustn't bore you with details of my impoverished existence any longer, as we've got a packed issue this month with with extensive reviews of Amiga Pro, the new GVP A530 Turbo hard drive and a work-in-progress on Street Fighter 2. What's more, we lead feature heralds the start of a regular monthly review column dedicated to the very best in CD-based entertainment. We spell you, we really do!

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SPECIALS

20 AMOS PRO

In an exclusive review, CU Amiga bench tests AMOS Professional, the most eagerly-awaited programming language since, erm, AMOS. Tony Dillon takes a look at all the new features and commands that have been included in what is widely regarded as one of the premier software tools written for the Amiga. With more than 750 commands now at the user's disposal, AMOS Pro looks likely to be the most talked about program this year. Turn to page 20 for a full review.



EDITOR Dan Singhal TECHNICAL EDITOR Nick Veach ART EDITOR Andrew Semick TECHNICAL ADVISOR Matt Beccanfield BOOK COMPILER Karry Good
AD MANAGER Tony Glenister EDITOR SALES EXECUTIVE Michelle Goodlander SALES EXECUTIVE Tucky White CLASSIFIED/PRODUCTION MANAGER Tanya Bell
IN-HOUSE SCANNING Tucky White PRODUCTION ASSISTANT Esther Rodd THIS MONTH'S GUEST OF HONOUR Kyle Monogue
MANAGING EDITOR Steve Jones PUBLISHER Gary Williams EDITORIAL & ADVERTISING 011 472 6700

CU AMIGA Office - Hasty Court, 30-32 Farnborough Lane, London, EC1R 3AL, Tel: 011 472 6700 FAX: 071 972 6701 Distribution - BBC Printers Ltd, Park House, Park Road, Farnborough, Hants, GU14 7JH, Tel: 0753 555151
Subscriptions - PO Box 520, Liscard, SE9 0AA, Subscriptions - Tel: 0856 410310, Order line: 0800 456948
1456 410388, Back Issues - PO Box 500, Liscard, SE9 0AA, Tel: 0856 410310 35 0265 7113

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181, 925
JAN - JUNE 1992

GET SERIOUS

REVIEWS . PRODUCTIVITY REVIEWS . PRODUCTIVITY

What a month. Amiga software and hardware just keeps on getting better. This month sees reviews of the new GVP A530 Turbo hard drive, an in-depth look at AMOS Professional, and a testing of Hewlett Packard's new 24 bit printer. Also on show, are reviews of Neuro Pro, Image Master, SSL's A5000 and exclusive news on the A4000. Can't say later than that, can we?

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SCREEN SCENE

GAME REVIEWS . GAME REVIEWS . GAME REVIEWS

Streetfighter 2 gets Screen Scene off to a high-kicking start as we exclusively preview the Amiga conversion of the hit Capcom coin-op. Also on show are sneak previews of Virgin's KGB, the Bitmaps' Chaos Engine and Gremlin's Hero Quest 2. On the review front, there are tests of Silly Putty, Bat 2, Lotus 3, Sam Earth, Pool and, as they say, lots, lots more...

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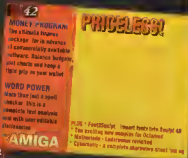
Putty enables in her review, page 68



James Pond returns in Aquabatics, page 55.

COVERDISKS

This month we've got two action packed disks offering a varied selection of utilities, demos and games to help you get the most out of your Amiga.



DISK 42

On the first of our two disks, we're giving away not one, not two but three professional quality utilities, plus two amazing games. To begin with, we've got *The Money Program*, a home accounts package to help you keep track of exactly where the monthly pay cheque disappears. Secondly, we've got *Word Power v1.3*, a spell checker that can solve crosswords. The third utility is the totally brilliant *Font2Script*. If you've still got a copy of the *Script 4D Jnr* package we gave away last May, then this program can take any standard Amiga bitmap font and convert it into a *Script* object file, meaning that you can import and manipulate characters in any *Script* package.

Rounding off disk one are two of the best PD games around: *Cybernetix* and *Motherlode*.



DISK 43

DOUBLE DISK DYNAMITE

LOTUS III

SILLY PUTTY

Our second disk features a specially commissioned playable demo of System 3's superlative *Putty* game. In this, you must guide our flexible friend around a fiendishly difficult platform assault course, avoiding all manner of in-coming missiles and gunfire. Along the way, there are lots of bonus points to pick up as well as energy-giving food and CU Amiga magazines! Scoring a massive 95% in our review section, *Putty* is definitely the best of its type. Rounding off the disk is *Lotus III*, the latest and greatest playable demo of Shaun Southern's superb racing game. Our demo features the new windy section and comes complete with three timed stages to race your car through. Not only can you play the demo, but you can also see all the new features the game possesses. Totally excellent.

First out of the blocks – 32-bit power from under £500!



At the 1992 Olympics, Britain's Linford Christie beat all comers in the 100 metres final, to win the gold medal in under 10 seconds. Acorn, too, has left its competitors standing by launching its new 32-bit computer range – starting from under £500.

The new computers, from a family learning and entertainment centre to the comprehensive home office, are awesome in speed, power and ease of use. Indeed, they are in a class of their own.

The Family Solution, at just £499* including VAT, has at its heart the Acorn A3010 32-bit RISC computer, offering a wide range of applications and software simply accessed via the system's multi-tasking windows and icons, in colour. With joystick support and hundreds of available games, family fun takes on a whole new dimension!

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A4000 LAUNCHED

A first glimpse
at the latest
Amiga.



Pasadena, CA — September 11, 1992
Commodore Business Machines, Inc. today introduced the Amiga (R) 4000, the company's revolutionary new premier multimedia computer. The Amiga 4000 marks the company's most significant new technology advancement in its Amiga line since the product's introduction in 1985. In addition to the Amiga 4000, Commodore announced several other significant product introductions including AmigaDOS Release 3 Operating System, and AmigaVision Professional Autotyping System.

James Donnie, President and General Manager of Commodore Business Machines, Inc., commented, "These product announcements exemplify Commodore's continued commitment to offer computers with probably the best price/performance ratios in the computer industry today. We are confident that these products, particularly the Amiga 4000, will keep Commodore at the forefront of multimedia technology and enable us to continue our aggressive push in the multimedia marketplace."

AMIGA 4000

This powerful new machine features Commodore's Advanced Graphics Architecture custom co-processor chip set that enables users to display and animate graphics in multiple resolutions at up to 256,000 colours from a palette of 16.8 million. The new hardware features are driven by AmigaDOS Release 3, the newest version of Commodore's multitasking operating system, in combination with the machine's main processor, the Motorola 68040. While this new version of the operating system takes advantage of the latest hardware features, it also maintains backwards compatibility with Amiga software not written specifically for the Amiga 4000.

The Amiga 4000 will come standard with a 120MB hard drive, 5MB of memory, a dual speed high density floppy drive and CrossDOS which enables users to read and write to MS-DOS formatted floppy and hard drives. Other key multimedia features include a dedicated slot for video devices; selectable NTSC scan rate compatibility, four voice dual-channel digital audio, up to 8 sprites, enabling high speed animations, and full hardware video overscan. The Manufacturer's Suggested List Price for the Amiga 4000 040/120 is \$3699.00.

AMIGADOS RELEASE 3

The newest version of the Amiga operating system adds several software enhancements to the previous 2.04 operating system. Among the new features are: CrossDOS, allowing access to MS-DOS formatted floppy and hard drives, a new installer utility, and a Postscript printer driver.

Additionally, AmigaDOS Release 3.0 offers full support for the new Advanced Graphics Architecture chip set featured in the Amiga 4000.

Contact: Commodore
Business Machines, Inc.
1280 Wilshire Drive
Wood Chatter, PA 15260
Main: Astro Line or
Aminda K. Griffin
800 215 431-4354

AMIGA 4000 TECHNICAL SPECIFICATIONS

CPU

- Motorola 68040 series 32-bit processor
- 25 MHz clock speed
- Removable processor module

MEMORY

- 2 MB 32-bit Chip RAM
- Up to 18 MB 32-bit Fast RAM
- Easily expandable via standard SIMM slots
- Additional standard RAM is supported by the Amiga's proprietary AUTOCONFIG capability

SOFTWARE

- 512 KB 32-bit ROM
- AmigaDOS 3.0 Multitasking Operating System
- Supports programmable resolutions
- Supports online fonts
- Localized for multiple languages/countries
- CrossDOS MS-DOS file transfer utility

INTERFACES

- Keyboard
- Mouse/Joystick/Lightpen/Tablet ports (2)
- Serial (RS-232)
- Parallel (Centronics)
- Video (RGB analog or RGB digital)
- Right and Left stereo audio
- Internal and External floppy disk drive ports
- Internal AT IDE port, Optional SCSI adapter

SYSTEM SLOTS

- CPU slot (200-pin) supports high-speed memory and advanced processors
- Amiga system bus — Two 1802-bit Zero III expansion slots (100-pin) with AUTOCONFIG
- PC bus — Three PCAT slots

VIDEO SLOT

- Extended 34-bit Video slot
- In line with standard 100-pin Zero slot for easy integration of Zero and video boards

How the Slots Work: If MS-DOS compatibility is desired, a Bridgeboard may be placed in slot 1, 2 or 3. When a Bridgeboard is installed, the empty PC slots are capable of supporting a wide variety of XT or AT-style boards. The remaining Zero III slots support both 24 & 32-bit Zero boards.

KEYBOARD

- Onboard
- 84 keys, including 10 function keys
- Separate numeric keypad
- Separate cursor keys (Inverted "T" layout)



drive bay

MOUSE

- Opto-mechanical
- 2-button design

DISK DRIVES

- Built-in 3.5-inch high density disk drive (800 KB/1.76 MB formatted)
- Hard Disk models pre-formatted and pre-loaded with system software and utilities
- 2.5 and 5.25 inch 3.5-inch drive bays
- 1 front 5.25-inch

GRAPHIC MODES

- AGA custom chip set processes resolutions ranging from 320x200 to 1280x400 (more with overscan), refresh 60/80/100
- NTSC and PAL video resolutions
- Color palette of 16.8 million colors
- 2 to 256,000 color-definable colors displayable on screen

VIDEO DISPLAY OUTPUT

- Works with RGB analog VGA or millimetric monitors (all millimetric supported with non-millimetric monitors)
- Horizontal scan rate 15 kHz — 31 kHz
- Vertical sync rates 50 Hz — 72 Hz

SOUND

- Four channel stereo sound, capable of reproducing complex waveforms
- 8-bit A/D converters
- 8-bit volume

DIMENSIONS

- 15 1/4" deep x 15" wide x 5" high

WEIGHT

- Approx. 20 pounds

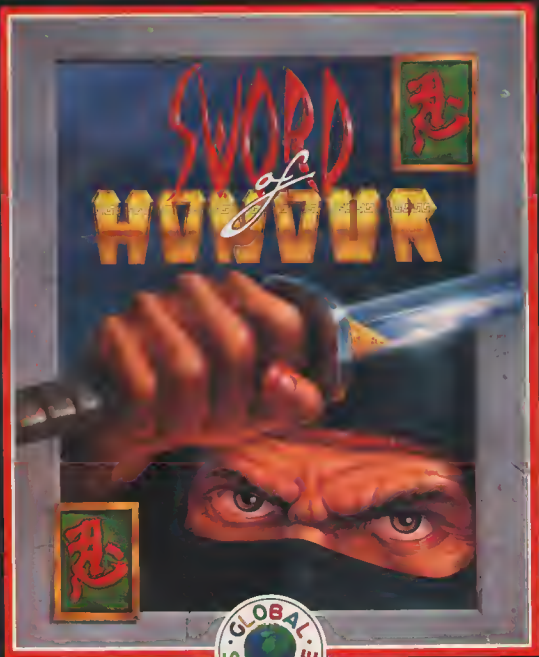
POWER REQUIREMENTS

- 110 volt/60Hz 150 watt power supply

AMIGA CONFIGURATIONS

A4000-040/120

- Amiga 4000 with Motorola 68040 Processor, 8 MB RAM, internal 3.5", 1.76 MB Floppy Drive and 120 MB IDE Hard Drive
- 84-Key Keyboard
- 2-button Mouse
- AmigaDOS Release 3.0 System Software and Utilities
- Gold Service Warranty Package

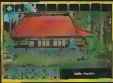


WITH THE SWORD OF HONOUR STOLEN, SHOGUN YUICHIRO'S HONOUR HAS BEEN VIOLATED. AS THE TOUGHEST NINJA AROUND IT'S UP TO YOU TO FIND THE SWORD AND DEFEAT YUICHIRO'S GREATEST ENEMY THE EVIL TORANAGA. THE GAME FEATURES 15TH CENTURY WEAPONS, VICIOUS HAND-TO-HAND COMBAT, AND AWESOME GAMEPLAY WITH WICKED MUSIC, SOUND EFFECTS, 30 COLOURS AND 25 FONTS. THERE'S ONLY ONE FINAL DEMON TO DEFEAT. SOFTWARE IS A PRODUCT OF GAMES & SOFTWARE FOR SCREENS ARE FROM KODAK. VISUALS FROM CRYSTAL DYNAMICS. SOUNDING LIKE A BATTLE.

ON SCREEN, AND 2.5 MB OF MENTAL GRAPHICS THIS GAME MUST BE ONE OF THE MOST REALISTIC MARTIAL ARTS GAMES EVER!

Sword of Honour is available on Amiga (925.00), and PC (149.99), from Global Software, Unit 14, Westside Drive, Westbrook, Bucks. SL9 6DX. Telephone: 0753 655000. Fax: 0753 655043.

PRESTIGE
Softwareentwicklung GmbH



RASH AND BURN

Roaring along on the heels of EA's *Desert Storm* is a conversion of their smash-hit Megadrive race game *Road Rash*.

Take to the back-roads of Amnesia on a top-of-the-range Japanese motor bike as you throw the rule book out of the window and use every dirty tactic to win. Barge opposing riders out of the way,

punch them or smack them with a baseball bat (once they're down they'll never catch on). You receive wads of cash if you win a race, which can be invested in a new, faster crotch-rocket.

Each of the twenty riders has their own personality, and if you get a little too free when dishing out hits you may find a few of your ex-mates singing you out for special treatment. Then there's the constant threat of on-coming cars and the police, who don't take kindly to this kind of high-octane mayhem taking place in their back yards. *Road Rash* is due out this Christmas and from what we've seen it's identical to the Megadrive version, which is no bad thing.



CHRISTMAS BUNDLES ANNOUNCED

The contents of the Amiga Christmas bundle were announced at Commodore's Maidenhead HQ earlier in the month. Traditionally a well kept secret, this year was no different as those magazines speculating on the contents of the packs proved to be spectacularly wide of the mark.

The plain A600 pack, called 'The Wild, the Weird and the Wicked' contains apart from the A500, *Deluxe PaintIII*, *Push Over*, *MacroProse Grand Prix* and *Puffy*. The price, which includes the one-year on-site guarantee, is £349.99.

The seniors' pack is based around an A600 with 20Mb hard drive (the A600HD). *Deluxe Paint III* is included, along with four games: *Myth*, *Rome*, *Epic* and *Trivial Pursuit*. The Trivial Pursuit included is the Language Lab edition, which explains all the lingo on the back of the box. This second pack is priced at £499.99.



OUT IN THE COUNTRY

They've simulated cities, they've simulated ants, they've even simulated a planet. Now Maxs have come back down to Earth with *SimFarm '95*. It's a farming simulation.

You are the farmer, knee deep in the leavings of your livestock. The object is to create a profitable farm by managing crops and animals, fighting off pests, trading produce for gold, surviving droughts, floods and other natural disasters (although sheep-herding French farmers aren't included). The PC version is due out at the end of the year



and we're expecting an Amiga version mid '93.

Also on its way to bolster the Sim range is *SimLife*, which lets you create your own life form from all back to sea what happens. First build an ecosystem and then a creature. Turn it loose with the indigenous population to see if it evolves, breeds the dust or destroys the food chain. One of the game's aims is to demonstrate the relationships between animals in the food chain and how creatures evolve to suit climate and terrain. Apart from that, the freedom you're given in creating a life-form lets you produce some really twisted creature-from-the-dawn, guaranteed to rip its fellow fanna to shreds. Keep an eye out for this next year.



WHO'S IN CONTROL

Acadade are releasing a follow-up to *Star Control*, their highly underrated arcade-cum-strategy space game.

Star Control 2 is set 20 years after the first one. A role-play element has been introduced and you're now cast as an inhabitant of the planet Unzenval who has been sent out into the big wide galaxy to find out why no contact can be established with Earth or her allies. All this leads to encounters with aliens and numerous space battles lasting up to 26 ships at a time. Improvements over the original game include more ships, giant starbases, 3000 planets, 18 alien races and plenty of sub-plots.

If you don't want the hassle of puzzle solving and striking a deal with the tentacles alien you found on Zuphron 5, you can play in melee mode, which is out and out combat between you and the computer, or a friend.



FREE-WHEELING IT

Many companies have experimented with the concept of a steering wheel controller before, with limited success. But Logic 3 think they've cracked it this time with the FreeWheel.

Conspicuous in its absence from this controller is any form of mounting. Instead, the wheel is held in mid-air and works by using bit-switches which respond when it's turned. There are two trigger switches mounted on the top, an endorsement from Nigel Mansell and it's due to hit the shops by Christmas.

MERIDIAN DEAL FOR CAD ENTHUSIASTS

CAD aficionados should take note of a special offer now underway at Meridian, formerly Precision Distribution, involving XCard.

XCard is an industry standard Computer Aided Design package which is widely recognised as being the best you can get on the Amiga as well as the IBM PC or the Apple Mac and the version in the deal is XCard3000.

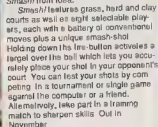
Because of its design features and fairly user-friendly output, it is recommended that you use the software via a graphics tablet, so one is included in the deal. The Cherry graphics tablet is also available across a range of computers and is used widely in professional and industrial applications.

The complete pack, normally costing £510 will be available for the stunningly low price of £699. Call Meridian on 081 543 3500.



There's good news for CDTV owners, too. The CD version of *Sensible Soccer* will be available at Christmas, priced at £19.95.

SUPER SMASHING LOVELY



HYPERARTS '92

The submission event will feature artwork sent to the festival and will be judged in categories according to age. You haven't got long though, so dust off your Dpwt and send those submissions to Tristan Brady-Jacobs: Hyperarts '92, 110 Bold St, Liverpool L1 4HY.

CIAO GAZZA

Orbiting signs you up as player-manager of a top Italian team in the 92/93 Italian championship. Seventeen other clubs are pitted against yours as you set the tactics, choose the squad, then don the boots of your adopted team. When the match is over you get to sit back and watch the sports pundits go through the highlights of the game.

MEMORY BLIZZARD FROM MICROPACE

The chips required for the memory expansion are either 256Kbit or 1Mbit 4 DfPs as opposed to the nowadays common SIMM modules. Whilst the processor itself isn't much of an upgrade the board could be very useful to those with older machines who now want to take advantage of the latest Kickstart and expand their memory capacity. MicroPace are on 0753 551888

LAND OF THE LITTLE PEOPLE

Just when you'd thought you'd seen the last of the little people, the Gobblins return. Gobblins 2, The Prince Bulfoon, follows a similar puzzle-solving line to the first one. This time there are two gobblins under your control, Fingus, the diplomat, and Winkle, the joker. They're out to save the Prince who has been kidnapped by the demon king and replaced with a jester. The gobblins have to work together to solve puzzles and avoid traps as they encounter the kind of creatures reserved for the worst kind of corny nightmares. You can find Gobblins 2 from Coktel Vision this Christmas.

GAME MUTTERINGS

Miniscape are preparing to go np, up and away with **Changelings** - an RPG where you get to play a super-hero. There are twelve scenarios, and you get to design your own hero from scratch, selecting what powers they have and what colour spandex their costume should be. Available early next year.

Callivik, from *Idon*, is a game about crime. You are Callivik and your mission is to place traps and rob the hapless people who get caught in them. Between each level is a bonus stage where you get to hurt eggs at will. —all-world.games.com. Another Carlsberg reference.

SCRATCH CARD WINNERS

If your card had the 0830 335543 number printed on it, you've won a \$5 discount off Kink On 3. If you found the 0830 920016 number beneath the silver panel, you've won one of the 240 Kick On 3 games that were up for grabs.



Tonight you could
prang an F-19, shatter enemies from your M1 tank
or have a smashing dogfight in your F15



Alternatively you could crash out in front of the TV

With incredible animated graphics putting you squarely in the hot seat, there's no excuse to be sluggish!

These realistic simulations give you a 3D perspective of combat in the sky from your jet fighter cockpit or on the ground from your tank turret. Each game demands that you use your

fiercely honed skills to decide on strategy, missions and campaigns. More of a challenge than waiting for a rerun of Top Gun, really.

MICRO PROSE™
SERIOUSLY FUN SOFTWARE

**F-19 Stealth Fighter, M1 Tank Platoon, F-15 Strike Eagle II -
all classic games from Europe's Number One Software Publisher**

MicroProse Ltd, Unit 1 Hampton Road Industrial Estate, Tetbury, Glos. GL8 5LD, UK. Tel: 0666 504 326

The story so far - in an immense fit of generosity CU Amiga are giving away not one, not two but three professional quality utilities on their first coverdisk, plus some amazing games. On the second you'll find a playable demo of System 3's excellent Putty game as well as three stages from Grenlin's Lotus 3.

42 43

COVERDISKS

ON YOUR DISKS

Forty two is the answer to the ultimate question of life, the universe and everything. It could also be the answer to a lot of your problems as we have somehow managed to pack Disk 42 to bursting point with useful utilities.

Disk 43 is also something quite special as we've got a playable demo of the yet-to-be-released Putty, courtesy of System 3. And it that wasn't all, you'll also find a playable demo of Grenlin's Lotus 3. Get loading!

IF YOUR DISK WON'T LOAD...

In the unlikely event of your CU Amiga coverdisk not loading, remove all cartridges and peripherals and try again. If they still won't load, pop it in an envelope and send it to: CU DISK RETURNS, PC WISE, DOWLAIS TOP BUSINESS PARK, DOWLAIS, MERTHYR TYDFIL, MID-GLAMORGAN, CF48 2YY. They will then test your disk and send a replacement as soon as possible. For any urgent problems, though, please ring the PC Wise helpline on 0655 350505 and this line can be reached between the hours of 10.30 and 12.30 weekdays. Whilst CU AMIGA makes every effort to check our coverdisks for all known viruses, we can accept no responsibility for possible damage caused by viruses which may have escaped our attention.

THE MONEY PROGRAM V1.0

Written by Alan Bilsborough

LOADING DISK 42

There are no difficult bits this month - no preparing blank disks in advance, no copying files or renaming anything. To use the programs on this disk simply turn your machine on and insert CU42 when your Amiga asks for a disk.

The programs run by simply clicking on their icons, and all the original documents can be accessed via the menu system too. Have fun.

The Money Program is a home accounts utility program which allows the user to keep track of up to 12 accounts simultaneously. These accounts are stored as one file allowing quick and flexible interaction between different accounts. All transactions are also related to user-defined groups (ie Electricity Bill, Wages etc) enabling budgets and expenditure to be carefully monitored. Full instructions for this program are included on the disk and it is strongly recommended that you print these out or read them thoroughly if you intend to use this program a lot.

MAIN MENU

As well as accessing the above menus the main menu also has five additional options which the author felt would be the most frequently used options -

- 1) Input Transaction
- 2) View/Edit Account File
- 3) View/Edit Group File
- 4) View Account Graph
- 5) Budget Comparison

INPUT TRANSACTION

Hopefully this will be your most used option. The more transactions you enter the greater you ability to monitor expenditures (as well as keep your accounts up to date). A total of 2500 transactions can be input. All Transactions have six elements -

- 1) Date
- 2) Account
- 3) Group
- 4) Description (Optional)
- 5) Cheque Number (Optional)
- 6) Amount

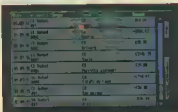
Note: No Transactions can be input until at least ONE account and ONE group has been created as they are integral parts of the transaction. Editing of

QUICK START

The Money Program is very simple to use, but as with all software it could be a bit confusing to begin with. We suggest you start like this:

- Boot up from the coverdisk
- Double-click on The Money Program icon
- Wait for the program to load
- Click once on the LOAD/SAVE menu icon (in the bottom right of the screen)
- Click once on the Load example data icon
- Wait for the data to load
- Click on the RETURN icon
- Now there is some data loaded you can explore all the menu options outlined above and see how they operate on real data before you create your own

Remember to have a blank disk standing by if you want to save any account data that you have entered.



If you want to get your finances in order and keep a note of exactly where your money goes each month then The Money Program will help keep your money in order.

transactions is very easy, so don't worry about making mistakes as they can be rectified later!

View/Edit Account File. This option allows you to view an entire account file. All View/Edit Options allow you to edit Transactions by clicking on their button.

View/Edit Group File. View and/or Edit an entire Group File.

View Account Graph. Displays a graph of the history of the account. Click Left Mouse Button to Exit. **Budget Comparison.** This option allows the user to see at a glance the percentage of budget spent to date.

VIEW/EDIT OTHERS MENU

This menu has 3 lesser used View/Edit Options.

View/Edit Complete Transaction File. Self

Exploratory View/Edit Filtered Transaction File. This option was introduced to produce a more flexible option for the user to view/edit any combination of accounts and/or groups. The first option screen allows any number of accounts to be specified (ranging from none chosen to all chosen). The

second option screen allows any number of groups to be combined with your choice of Account(s). The group option screen allows the account(s) to be either added to the chosen account(s) or taken away.

View Edit Cheques File. Any specified cheques will be displayed.

CREATE MENU

This menu creates the framework for your transactions and has options to create five different items:

- Create Accounts.** Allows up to 12 accounts and their starting totals to be defined.

NOTE: The account names and their totals can be edited but NOT deleted. As transactions are always related to an account it is important that the original accounts are ever-present. The same reasoning applies to Groups. It is therefore important to put some thought into the creation of accounts and groups.

Create Groups. Allows creation of up to 30 groups. The above Accounts Note also applies to groups so it is advisable not to create too many minor groups which would not be used much. For these minor groups, it would be advisable to create a general group and use the DESCRIPTION to define the transaction more clearly. If required, the user can also define a budget for each group. This budget can then be compared to the actual amount spent using the MAIN MENU option - Budget Comparison.

Create Direct Payments. Direct Payments are regular payments which are automatically added to your transaction file. Payments can be made on a X-monthly basis (where X can be 1 to 12). The day of payment can also be specified. A total of 20 Direct Payments can be defined.

Create Reminders. Reminders can be used to you've guessed it! remind you at forthcoming events i.e. Birthdays, Car Service Due etc. They consist of one line of reminder text and the reminder date. The reminders are displayed in the scroll line. A total of 20 Reminders can be defined.

Create Notes. Notes can be used to store any lines of text which the user may want to store in a bank addresses, telephone numbers or card numbers etc. They consist of two lines of text and are displayed in the scroll line. A total of 20 Notes can be defined.

LOAD/SAVE MENU

Data in this utility should be stored on a separate Data Disk. Please prepare a formatted disk. Save data once you have edited your file. If you want to start a new file, you will have to use a separate disk as there are no options to select and save separate files.

LOAD from Data Disk. When selected, the program will look for data in drives D0* and D1* and if found, will automatically load the data.

Load Example File. This option will load the Example File which is supplied on the Program Disk. Please note that Data loaded from the Example File cannot be saved.

SAVE to Data Disk. Saves data to your Data Disk. If a Data Disk is not present the program will ask why not!

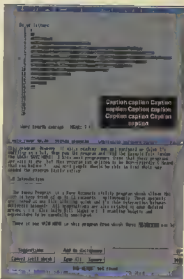
Save for Next Period. This is a special save option which saves everything to a Data Disk except the Transaction File.

NOTE: The User will not be able to save this data to an existing Data Disk, so please prepare another Data Disk.

Save ASCII File (Account). Printouts are not supported directly, so if you want to print out your account use this option to save it as an ASCII file on disk and then print it via a word processor or by copying the file directly to the printer.

WORD POWER V1.3B

Written by Steven Rennocks 1Mb required



WORD UP

When Word Power is first loaded it will find and load a dictionary. The dictionary depends upon the default dictionary name in the OPTIONS. If the default dictionary cannot be found then you will be presented with a file requester that will ask you to select a dictionary to load. Dictionaries should have a .dic extension on the main filename so that you can tell them from other files on the disk unless of course that is not part of the default dictionary name that you have set for your own dictionary. The lower display bar tells you the number of words that are in memory.

When the dictionary has loaded you will be presented with the main menu. Most of the options are explained below, but you can find full instructions on the disk.

OPTIONS

The options screen allows you to customise the Word Powerset up to suit your needs. There are three options to change.

Default dictionary name. When you click this option you can edit the name of the dictionary that will automatically be loaded each time you load Word Power and every time you save the dictionary.

The small included 2,500+ word dictionary is a small dictionary to get you started. If you register as a Word Power user (read Shareware scheme File on the disk through Workbench) you will receive many benefits including a new version of Word Power that includes an 11,500+ word dictionary.

Word Power is a spell checker that also uses its database of words for a few things, other than just spell checking. Word Power V1.3 will spell check documents, solve crossword clues, solve anagrams and even help you with your Scrabble* game. Not only that but Word Power is also rather fun to use!!

nary (i.e. The default dictionary name). The default name is 'SYS WP.dic'.

Highlight words. This option simply lets you decide if you want unknown words highlighted while you are spell checking a document.

Clear ignored words after spell checking. When you do a spell checking a document you can ignore a word which will then be ignored if found again.

WORD ANALYSIS

This option is not very useful, but is fun to use if you are creating your own dictionary. All it does is draw a bar chart showing the number of words containing a certain number of letters in the loaded dictionary. The mean and mode average word lengths are also displayed at the bottom of the screen.

SPELL CHECK DOCUMENT

This is the main feature of Word Power and thus is easily the most powerful. Firstly, you must choose a document to spell check. If a file is powerspelled or contains binary then Word Power will recognise this and cancel spell-checking because any adverse effects are caused. Once you have selected a text file it will be loaded and checked line by line until the end of the file is reached.

Working from the left each word that is unknown to the dictionary will be highlighted (if the option selected) and mentioned at the bottom of the screen. The options now available for this word are:

- Ignore.** Ignores the current word.
- Click on ignore box** or simply click LEFT mouse button.
- Ignore all.** Totally ignores the word and all repetitions of this word.
- Click an ignr.all box.**



PC VGA

Part 2 of the B.A.T. saga takes place in Roma 2, the capital city of Shedishan, a planet in the BB system. This time you are Jehan Menasis, an agent of the famous Bureau of Astral Troubleshooters. Your mission: crush the unscrupulous KOSHAN which holds an almost complete monopoly of the precious Echiotone 21.

Will you make it?



AMIGA



The Latest
Creation From

COMPUTER'S DREAM™

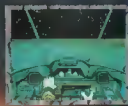
The Thrilling
Role Playing
Adventure

continues
on ST, Amiga
and PC.



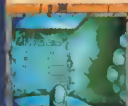
PC VGA

> Three playable coin-op video games.



PC VGA

> A complete 3D-modelized plot system with 4 flight simulators.



AMIGA ST

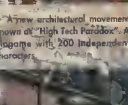
> A new generation organic computer including a parallel language compiler.



> A new architectural movement known as "High Tech Paradox". A dialogue with 200 independent characters.



> Confrontations with gladiators and street fighters (2 options: strategy or arcade).



> A new sound system which provides an extremely realistic sound atmosphere (on Atari ST, compatible with your MV16 sound card).

UBI SOFT
Entertainment Software

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Yateley, CAMBERLEY GU17 7X
Tel: (0252) 460 299

Add word. This adds the current word to your dictionary. Click on **Add Word** box or just press **RIGHT** mouse button while not over an option box **Suggestions.** This will give you a list of possible suggestions for the unknown word. Click left button on **UP** and **DOWN** boxes to move up and down the list if there are more than three suggestions. The word is also displayed above the suggestions in the **WORD BOX**. Clicking the left button on this will let you enter the correct word if it is not one of the suggestions. If you selected one of the suggestions it will be copied into the **WORD BOX** so that you can edit it.

You now have three more options:

Replace All. This will replace all occurrences of the misspelled word with the word in the word box. **Replace.** Just replaces the current misspelled word with the word in the word box. **Cancel.** Does not replace any words. Returns to main spell check menu.

When you finish spell checking you have the option to either **Save** the spell checked document or **ignore** the spell checking.

TEACH SENTENCE

This allows you to teach the dictionary a sentence or words. Simply type in a line of words with spaces and each word will be spell-checked.

SOLVE ANAGRAM

This option solves anagrams (surprise!) Enter the word you wish to find all the anagrams of and then wait a few seconds before all the anagrams of the word you have entered will be found.

SOLVE CROSSWORD

Enter the word you wish to find and replace any letters that you do not know with question marks '?' (e.g. '??a??' will find all five letter words which have the letter 'a' as the third letter e.g. RESET, LISTS etc.)

LOAD DICTIONARY

This allows you to load any Word Power compatible dictionary.

SAVE DICTIONARY

This allows you to save your dictionary under any filename, but it should end with .DICT so that Word Power can recognise it when it comes to load it back in.

FONT2SCULPT

1Mb required

Font2Sculpt is a program specially commissioned by CU Amiga to complement the **Sculpt 4D II** package we gave away on our coverdisk back in May.

The idea of the program is to take any standard Amiga bitmap font and convert it into a **Sculpt** object file, meaning that you can import and manipulate characters in any **Sculpt** package. Aside from anything else this could turn your **Sculpt** software into quite a sophisticated **typing** package.

Unfortunately, due to compatibility problems, owners of some Kickstart 1.3 machines will not be able to use it. If you believe you may be affected in this way, send your disk to: CU Amiga Font2Sculpt, Phony Court, 30-32 Farringdon Lane, London EC1R 3AU. We will replace your copy of **Font2Sculpt** with another version of the software and send it back to you (don't forget your name and address!)

INSTRUCTIONS

First of all, make sure you have somewhere to store the data if you are going to export all the characters in a font you will need to format a disk (the object files can be quite large).

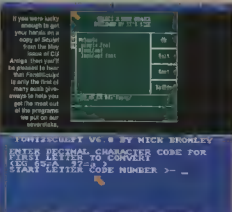
Run the program by double clicking on its icon. A requestor will appear asking you to select a font and size to be processed. It will default to the **SVS** Fonts directory, the font directory on your boot disk. Remember that you have to indicate the size by going into the font name drawer and selecting one of the size files, which are given numbers indicating their point size. Of course, you can scale the fonts up and down in your **Sculpt** application but remember that the bigger the original font size, the more accurate the shape of the letters will be.

Once selected either double click on the number or click on the **OK** gadget. The font will then be loaded into memory and analysed by the program. You will be asked to enter a

numeric value for the start of the process. This relates to the ASCII code value of the character to start with (e.g. 'A' is 65 and 'a' is 97). Then you will be asked to input the code number of the end of the sequence (e.g. 'Z' is 90 and 'z' is 127). All characters between the two specified will be processed and an individual object file created for them.

If you are running on a floppy drive, now is a good time to swap disks and put in a blank one to save the object data on. Saving the data may take some time so please be patient.

Once that's over you now have plenty of object files to import into **Sculpt** and manipulate however you like.



CYBERNETIX



CONTROLS



Font and keyboard actions are guaranteed in this brilliant Defender clone that puts the rest to shame.

Remember *Defender*? That aged cat op has spawned many clones and *Cybernetix* is one of them. This action is fast and furious as you roar through deep space blasting asteroids, zapping aliens and collecting crystals.

The game contains a lot of the ships you'll encounter and what their tactics are. Be on the look out for The Assassin, though this ship comes after you if you hang around too long. It's almost impossible to destroy, so get a move on. Keep an eye on the radar at the top of the screen. It shows you where the aliens, crystals and asteroids are as well as flashing up messages informing you that a horde of new enemies has just warped in.

You have one trick up your sleeve - a smart bomb. When the going gets really tough hit the space-bar and all the on-screen enemies will explode. Power-ups appear from time to time and include extra fast bullets, two-way and rear fire and a shield.

Collecting the little blue crystals adds to your score, and you're rewarded with an extra life every 5000 points. Another good reason to collect them is that some of the aliens also go after them, and if they get hold of one or two they turn into mutants which attack at twice the usual speed.

OCTAMED SAMPLES

Also on this disk are ten new samples to use with *Octamed*. The samples are in a drawer on the coverdisk, but they won't show up on the menu if you boot from the coverdisk.

To use them either boot up from Workbench and copy the contents of the samples directory onto your usual samples disk, or alternatively you can run *Octamed* and import the samples directly.

All the samples are of a professional quality and may be used in your own tunes without worrying about nasty copyright problems.

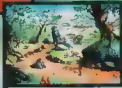
Curse of ENCHANTIA



Sucked into the cursed land of Enchantia, Brad finds himself chained and imprisoned inside a castle dungeon. He escapes from the castle via a subterranean cave system and meets fortune tellers, magicians, dogs on elephant seats, fire demons and many other colourful characters both friendly and otherwise!

Travel with Brad to the Valley of the Lost, the Ice Palace and the Graveyard in his quest to ensure his safe passage home.

Curse of Enchantia is available on Commodore Amiga 1 meg only and IBM PC compatibles.



Screen shots from various formats.

CORE
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PUTTY SYSTEM 3

LOADING DISK 43

Just insert either disk in your drive, wait a few seconds, click once on the game you want to load, sit back and play it. If you have any loading problems contact PC Wise, whose address is given elsewhere in this section.

Planet Zid is in dire straits and we don't mean the pop group Dweezil, the evil ginger cat has stolen the only four copies of CU Amiga on the planet, and to make things worse he's imprisoned several bots in the new CU office — on the 300th floor of a skyscraper! Putty has to rescue all the bots and track down the missing CU's by sunrise or something pretty nasty will happen.

Probably

The only way to save a bot is by either carrying him to the elevator at the bottom-left of the level, or clearing all the hazards and letting all of them make their own way there. If you don't keep an eye on them they'll end up being devoured by the bad blobs on the third level. It pays to clear all the hazards first, absorbing the occasional creature to top up Putty's pliability gauge.

The CU's appear out of mid-air from time to time, so keep an eye out for them. They can be collected by forming a pool and absorbing them, as can the other bonuses.

Being a sentient blue lump has its advantages. Putty can withstand the kind of punishment that would reduce any normal hero to a quivering mass, and he can distort himself in a number of bizarre ways to confound and destroy his enemies. All he has to do is keep an eye on the pliability gauge at the top of the screen — if this runs down he won't be capable of even holding a window pane in place.



Bounce — Up-direction

Using his elastic abilities, Putty can lurch himself into the air, over gaps and nasties. **Stretch** — Fire-direction Putty's pliable nature lets him stretch horizontally and vertically across gaps and up platforms.

Melt — Down

Reduces Putty to a blob of blue slime, allowing him to avoid or capture nasties and bots. **Absorb** — Down+wait

Melt Putty and wait for something to walk over him. Absorbed animals and vegetables increases his pliability. Bots can also be absorbed and stored safe from harm. Melt again to release them.

Silther — Left or right

Putty can sprout little legs and trot across tricky gaps.

Infale — Fire+up and down rapidly

Increases Putty's size tenfold. Useful for saving bots from long drops.

Explode — Infale pest maximum size

The exploding Putty blows away all nearby nasties, although doing so reduces his pliability by 25%.

Mould — Melt+fire twice

Putty can take on the form of some creatures by moulding with them. You have to experiment to find out which ones it works with.

Make coffee — Melt and hold fire

Puts the burry bots on a well-earned 30 second coffee break.

Punch — Fire+jab left or right

Putty forms a boxing glove which flattens anything on the receiving end.



KNOW YOUR ENEMY

Right then, pay attention Putty. The enemy are everywhere, trying to get you and your bots.

SPACEHOPPER PIGS

You can absorb or squash these, but you can punch them out of the way.

DUCKS

An escaped duck is a dangerous one, as they drive around in steamrollers looking for blue blobs to squash.

MUSHROOMS

Your weakest foe. Squash or punch them. Alternatively, absorb them for extra pliability.

FIREFORK INFES

Whilst dangerous, the infes are not too bright. They can be punched, squashed or absorbed, or you can wait for them to shoot each other.

MANHAWDIE THE MAGICIAN

He uses his magic wand to change bots into rabbits, which explode after a while.

RED BLOBS

Almost invincible. Fortunately they appear near Marmaduke, so when he creates a rabbit, absorb it and use the Mould function. You'll turn into a replica of the rabbit which the blob will absorb. Expand and you can now blow the blob to pieces.

POWERUPS TREVOR

Trevor is Putty's special invisible friend. He hides out in bits of the scenery and drops power-ups.

UNCLE TED AND HIS HOME ORGAN

Good old Uncle Ted appears with organ to provide a kneazup-jab for the nasties. When he plays they dance.

POCKET WATCH

Adds time to the countdown.

DWEZZIL POWER

Renders Putty invincible.

DUBBLEGUM

Lets Putty explode four times without losing pliability.

MOTHERLODE

This game is a throw back to the early eighties when titles like Pitfall and Lode Runner were hits. The objective is simple, collect the gold and the rest of the people. Some characters can't jump, but he can climb holes in the floor, which the nasties fall into. When you've collected everything climb up the highest ladder to progress to the next level.

The nasties will start chasing you when you're on the same level as them, but they're not too bright and it's easy to lead them into a hole or off of a platform. Some levels feature pipes which you can swing from, but you enemies can follow you onto them so well, so don't hang around.

Controls are simple. Up to climb, down to go down, left to go left and right to go right. Press fire to dig a hole.

LOTUS III

Gremlin's follow-up to the excellent Lotus 2 features a track designer, different vehicles and an in-car stereo. You get to see all this in action on our cover disk.

Load it up and you can sit back and watch as your Amiga takes control and guides you through some of the game's features. Then take a Lotus for a spin on a pre-set track where the wind is so strong you have to fight to keep your car on the track.

You'll pick up extra time when you pass a check-point and the car has an automatic gear box so you don't have to worry about gear changing. Keep an eye on for tumble weeds which blow across the track. Nothing





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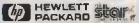
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AMOS Professional

The most eagerly-awaited software package of the year has finally arrived. Tony Dillon takes the wrappings off AMOS Professional and is very impressed indeed.

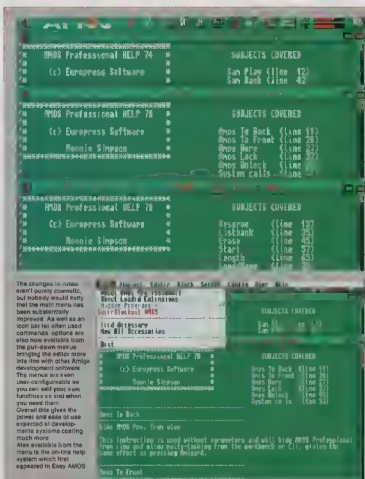
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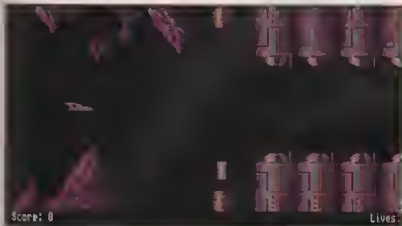
AMOS is without doubt one of the most powerful high-level languages on the Amiga – and definitely the easiest to use. In case you're not familiar with the terminology, a low-level language is something like C or Assembler where what you write are direct instructions to the processor. In AMOS, you enter commands that are extremely close to English, and these are then turned into machine code for the processor to act upon. Unlike other forms of BASIC, AMOS was written specifically for the Amiga, and therefore has the capability to turn out some truly outstanding programs.

MOVING AHEAD

AMOS began life almost 3 years ago, and since then the basic module has seen three major extensions: the AMOS Compiler, AMOS 3D (a polygon generating set of instructions that were installed in the main module) and the AMOS TG:al Map Editor (TOME). Now, after months of research, Europress is about to launch AMOS Professional. Two hundred registered users were sent questionnaires and asked what they would like to see in an improved AMOS package. This so-called product is the result of all that research, and the difference between the two packages is striking.

Two hundred and fifty new commands have been implemented, and we'll talk more about them later. What's even more impressive is the completely new environment that Europress have created. The main editor has been completely reworked. Instead of the original box of ten icons at the top of the screen, the enlarged edit window fills the entire screen, with only a thin strip of icons running along the top. A Workbench 2 style effect has





GAMES CRAZY

Two productivity disto come with two packages, both packed with AMOS games. These are a far cry from the usual *Magic Forest* and *AMOSWorld* titles that came with the original game. *Wonderland* is a ball, eight-way scrolling platform romp. *Super Blackout* is an excellent Tetris clone and *Pile Of Poils* is a very useful database. These games really show what AMOS Pro can do. Can you do better?

been added, making the border look almost three-dimensional. Generally, everything is presented in a more straightforward fashion.

MENUS

Holding down the right mouse button reveals a menu bar containing almost four dozen options. This has enabled Enrapture to abandon the multi-screen icon bank of the first program. All the standard commands—such as running, testing, saving and loading—are present as well as an insert/overwrite toggle and a new button that inserts a blank line at the current cursor position.

The menu bar is divided into six categories and lets the programmer do everything, from loading and opening files, to examining procedures and creating macros. A User menu starts empty so that you can place programs and routines of your own devising into it. Have you written a printer driver or a mini-word processor you want to keep handy? Then place it here, and it'll become part of the AMOS system, always waiting when you load up Handy or what?

A feature borrowed from other software is a system called AutoSaving. How many times have you sat down for a few hours to begin writing the

HIDING IN THE SHADOWS

One thing I disliked about AMOS was the fact only two programs could be loaded into memory at once, and then only one could be displayed at a time. AMOS Pro allows as many programs to run as memory permits, and up to 16 can be on screen at once. They are stacked in a similar fashion to Windows screens, and can be scrolled up or down. Just to run the screen should get too cluttered, it's possible to push them into the waste menu with the "Hide" key. This removes them from the screen and displays them in the menu bar, from where they can be run without ever displaying the dialog.

ultimate game: only to have the computer bomb and realise you haven't saved in the last couple of hours. AMOS Pro displays a save prompt every half hour so there's little chance of making the same mistake.

When leaving AMOS, the program does an automatic save so that next time you load it up, you'll be able to jump straight back in. This feature

works best when AMOS is running from a hard drive, but it's extremely useful nonetheless.

MULTI-WINDOWS

When working on a long listing, I always found it extremely irritating moving back and forth, checking links and making corrections left, right and centre. AMOS Pro contains two new features to do away with such shenanigans. The first is the inclusion of user-definable reference points. By setting these using the pull-down menu, the programmer can mark specific parts of a listing, and then jump back to them at any point simply by pressing a key. Needless to say, this can be a godsend in the small hours: it that isn't enough, how about an option to edit various parts of a listing at once? That's possible, too, by creating multiple windows on screen, all viewing the same listing.

Theoretically, there are an infinite number of windows available, memory permitting of course.

Another feature that should make adding a little easier is the Macro system. A Macro is a small set of characters that the computer stores and then enacts for you at the touch of a button. If you have a program that often requires a repetitive sequence of instructions, you can record the instructions as a



Multiple document windows mean you can edit the same program in two places at once or even cut and paste between two entirely different files.



This help facility first appeared in Easy AMOS but has been improved for the professionals too.

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One of the numerous help notes, this one explains the Print function



The new Direct Mode. Note the increase in size making it easier to understand what's going on



The resource bank contains all the basic building blocks needed for the interface construction language



The Simpson's Super Explorer was written with interface

Macro, assigning them their own key combinations. Like almost everything else in AMOS Pro, the Macros can be saved out and used as many times as you like

HELP ME!

One of the biggest selling-points behind Easy AMOS was the on-line help system, allowing the user to browse through the different commands and their meanings, or find out the exact syntax of what you wanted to use. In AMOS Pro, the system has been given a massive overhaul and is presented as a complete manual on disk, available at any time by merely pressing the help button. Pressing help gives one of two responses, depending on the location of the cursor. If it's at the start of a word, AMOS Help will display the full instructions of the word, with all syntax and a couple of examples. If the cursor is anywhere else, a menu will appear letting you check up on any part of the AMOS Pro system

The most impressive feature of the new editor is that if there is any part of it you don't like, it can be changed. The entire system can be tailored to suit, from the colours of the menus to the various sounds the program creates—even the style of requester boxes and the system messages that appear. All this is done from a configuration program found on one of the menu bars, and once everything has been set up, it can be saved and will remain as set until a change is required

The direct mode is an area in which instructions are tested without effecting the program, to see if they actually work. This has been revamped and now contains a row of icons along the top and one or two tiny little tricks. The direct window is much larger than before, and you can choose whether any printing commands appear on the main screen or in the window

The icons replace the familiar set of commands, and each of the ten has two sub-commands, chosen by the left or right mouse button. There are no surprises here as clicking brings up the current directory, opens the file selector or closes the current screen. On top of this, AMOS Pro's direct mode can remember the last 20 commands entered, and by using the up and down cursor keys, any of these can be selected

An interesting aspect of Easy AMOS was an unbelievably handy programming aid which allowed the user to run a program on a small screen and watch the listing run of the same time. Thankfully, this has been incorporated into AMOS Pro, so debugging is now a hell of a lot easier. You can run programs at one of three different speeds, whilst watching your program scroll by in a small window in the middle of the screen. Immediately above that is a bank of icons that control the monitor and a tiny screen that

AMOS professional

shows the program. At the bottom of the screen is another window that shows exactly what the current line is doing and what effects it has. For example, if the line is in the middle of a For...Next loop, this window will display the current count

That's the new improved environment out of the way, now let's talk about the improvements to the language itself. AMOS Basic has gone through numerous changes over the last few years, but none so drastic as this. Easy AMOS had 350 commands. AMOS had 500. AMOS Pro has a staggering 750 plus commands! So what has been added, I hear you cry?

TALK TO SOMEBODY!

For a start, there are now comprehensive commands for the serial, parallel and printer ports, allowing you to write programs that interact with outside peripherals. On top of that, AMOS now supports AREXX fully, enabling the user to interact with previously written scripts and even generate new ones. AMOS Pro is most certainly geared towards the professional user

The original AMOS had very limited access to machine code, the access being that as AMOS already accessed most of the power the Amiga had to offer, there wasn't really much call for it. Of course, we know that simply isn't true, and things like polygon generation can be written to run much faster in machine code than in BASIC, but how can these routines be incorporated? Well, what if AMOS Pro enables the programmer to drop blocks of machine code into a listing as closed procedures and then what if these can be accessed by jumping to the procedure as normal. If that doesn't interest you, I don't know what will

The bits and sprite handling routines have been enhanced, with a lot more commands to cut out

THE HISTORY OF AMOS

In April 1986, the programming of AMOS began to normal. Two years earlier, NTOS (the Atari ST version) had been released to France for review. In the months after its release, people started to get into the Amiga, and as AMOS was born. Programming was stopped temporarily in March 1988 when Franklin D. Roosevelt was drafted into military service. However, he persevered, and on June 25th of the same year, AMOS v1.1 was released to about seven thousand games.

The following September saw the release of AMOS V1.2, a streamlined version extracting some bugs. In that same month, work began on the second major AMOS update, the AMOS Complete. The new version, along with V1.4, was launched in June 1991. The month after that, AMOS 3D was released. This allowed people to build visual reality games within the AMOS framework. At the same time, plans were being drawn up for a beginning version - Easy AMOS which was released earlier this year.

In March 1992, work proper began on a major version of AMOS. Easy AMOS contained some new features that interested people. AMOS 3D users, such as on-line help had it. One had a monitor that allowed you to watch your program in action. They wanted some of that for themselves, and so these features were incorporated into AMOS Pro along with some new and impressive features.

AMOS professional

THE MAN BEHIND IT ALL...

Francis Chartier is fast-talking, frantic, funny and French. We caught up with him at his home in Lyon to find out some more of what AMOS is all about...

"I originally wrote STOS because all I could afford was an ST. Amiga was far too expensive. Once I had released STOS, I began to hear a lot of good things about the Amiga and eventually decided to get the better of me and I bought one."

"When I tried to program it, I was lost. Code as a multi-tasking system was a nightmare. I had to fight with the machine for a couple of months before we could agree on how things should be done. The Amiga is like a cat - if you don't stroke it in the direction of the fur, it gets very upset."

"When I started writing AMOS, I didn't want to make the same mistakes as STOS. STOS was terribly structured, with everything heading into numbers and so on. In fact, I had to rewrite about 50% of STOS to turn it into AMOS. (Editor's Note: The original AMOS manual wasn't quite as well written. It was basically copied from the STOS manual, and contains the same mistakes that had caused many people to abandon software because their anything else - the command LIST, which allegedly told you print out your listing. This command was never in AMOS!)"

"The feedback on AMOS was amazingly good. It was the first language that allowed people to make a sound with one instruction or move a sprite easily. I finished AMOS just after writing the first manual, and ended up expanding it as a portable PC system. I would, had time you get stuck with a command, remember it might have been written on the list!"

"Easy AMOS was the idea of Chite Payne (European Software House). He wanted to do a cut-down version for people who would be more likely to program. I thought it would be easy. In fact, he only knew all was removing the unwanted instructions. Incorporating the help system and the new list system were a nightmare and a lot of hard work. But I'm happy with it!"

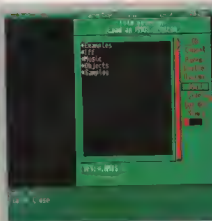
much of the boring and repetitive tasks. For example, it's now a lot easier to clear all the bobs at once, as well as being able to check collisions between all bobs and all sprites at a stroke

INTERFACE

The big new addition however, is Interface Interface is AMOS' interpretation of Interface, a built-in graphics system the Amiga uses for Workbench. Interface is used to build-up dialogue boxes, requester windows, and generally complete screens with the minimum of fuss. The main editor screen is split with Interface and shows how easy it is to use. Basically, there is a screen of graphics called a resource bank. This comprises simple units, such as box corners and different styles of line. Using a building block process, these objects are placed together to create complete screens, buttons, boxes, alert messages, etc.

Interface takes a little getting used to, but once you've got it sussed, it's very much easier than using the windows system from the original AMOS. Interface boxes are completely temporary so never overwrite the background.

On the sound front, AMOS Pro still possesses



Left: The requirements have been typed up a bit, but they're still not quite up to AMP standard. Included in this version of AMOS is a handy utility to create your own.

Right: The standard of the example programs given away with the package has improved dramatically.

Below left: Just one of the 10 internal programs which outline a fairly what each command does and how to use it.

the same AMOS music routines, along with a couple of new, professional features. Easy AMOS let you run Noisebroker modules if required and AMOS Pro goes one step further and lets you play Med modules on top of everything else. Previously, you would have needed to use a conversion program which would often damage the sound quality, leaving clipped samples. By using the new Track Load and Track Play commands, music sounds exactly as it did when first performed.

Another addition is the ability to play IFF animation files - the sort of thing created on Deluxe Paint in compressed mode or MovieSetter. In AMOS, they run faster and smoother than the original packages they were created in. Animations can be created within AMOS, but it's better to use a good art package and then jazz them up in AMOS.

The final addition is a jazz theme called '101 Piccadilly'. Since the first original AMOS was released, Europress asked users to send in any interesting routines they may have programmed, such as single line scrolling or bobs routines. On the Examples disc are dozens of little true routines to do all those jobs you can't be bothered to write. There are at least 60 of them on one disk.

FAULTLESS

AMOS Pro is nearly faultless. It has been designed as a version of Basic for people who really want to

get something out of their Amiga, and attempts to do this in a very user friendly environment with some excellent on-line support. This it does without fail. AMOS Pro is everything I hoped it would be and more - an essential purchase.

AMOS PRO

...a glance

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THE FUTURE

What's coming next? Well, the last product to appear will be the AMOS Pro Canvas. This will lead into the main program and so on from the menu bar rather than as a separate utility. We should see that early next year, followed by the AMOS Pro Interface Designer, a stand alone utility for building-up interface systems. And, of course, there'll be regular update disks.



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If you don't understand exactly what multimedia is all about there is no need for alarm, especially given the fact that the computer industry is having trouble defining it to any degree of accuracy. In fact a large percentage of the

stand space at the Multimedia '92 show was devoted to applications which were no more than graphics or video applications.

Skirting around the areas of what exactly is and what isn't multimedia, we are going to take a look at the technology behind the concept of multimedia, the mass-storage medium that gave it life—CDs.

THE CD



CD REVOLUTION

CD WHAT?

You could be forgiven for thinking that a CD was just a CD and not a few years ago you would have been right. Unfortunately, as time wears on people are forever coming up with new ideas and mucking up a perfectly simple system. Many machines are capable of dealing with more than one of these formats, but what exactly do all those initials mean?

CD-ROM is the now generic term for a way of storing computer data on disc. As those of you with sound samplers will know, the amount of storage space required for even a few seconds of digitized sound is quite ridiculous. If you were to use a 16-bit sample, and sample at rates of up to 44KHz in stereo you would need even more space. This works to your advantage when it comes to CDs. The amount of storage space for an entire music album is colossal, and yet it all fits on a CD. Over 600Mb of digital data can be squashed onto a silver beer-mat, data which could just as well be pictures, text or applications software.

There is a standard format for storing data on CD, called ISO 9660, which means that any intelligent CD machine will be able to access the data on them. This doesn't mean that, for example, if you had a PC version of WordStar on disc that you could run it on your Amiga—you can access the binary data but that doesn't mean that the program will necessarily run on your machine, in the same way that if you have a program that can read PC Routines on your Amiga that doesn't mean you can run PC software from them.

It does mean that data is transferable though, so pictures, structured fonts and certain sounds should be usable across all machines.

CD+G, or CD and graphics, is nothing more than an enhancement to ordinary music CDs. As well as the normal stereo sound there are two channels of graphics data encoded onto the CD. When played in a graphics capable CD machine (such as a CDTV, CD-i, Laserdisc or custom CD+G

player) the graphic data is displayed via a TV screen. Because of the data transfer requirements for the audio channel, the graphics data is not relayed very quickly, and there is only a very simple protocol for transferring the data.

Basically, although a screen of about roughly the same resolution as an NTSC 16-colour lo-res Amiga screen can be displayed, it is addressed in a 'character block' fashion, meaning no smooth scrolling or wipe effects are possible.

Also, because of the speed of transfer, there is nothing like the data rate required for even rudimentary animation. Most of the CD+G music disks that have been released display lyric sheets and a few mono still images, or in the case of classical titles, the musical score and a bit of commentary. CD+G disks are not being released in large numbers not because it costs much more (anyone could knock out a CD+G track in a few evenings), but because few people have the equipment to play them on, and even if they did there isn't that much entertainment value in them anyway.

CD+MIDI is a similar sort of thing to CD+G, but instead of graphic data being broadcast on the extra channels they are used to transfer MIDI instrument and sequencing data to the host CD player, which then (if it has a MIDI interface) relays the data to any instruments that are connected. Once again, this is an 'enhanced' CD, so you can still listen to just the music on a normal CD player but you will need something like a CDTV or CD+MIDI player to access the extra data (which is one very good reason why the CDTV has built-in MIDI ports but an ordinary Amiga does not). Although potentially more useful than the CD+G standard, this medium has suffered a similar fate at the moment, but the technology is there so the practice may be revived if the current crop of multi-media hopefuls catch on in a big enough way.

PhotoCD is a relatively new concept, promoted by Kodak. The idea is that instead of (or as well as) having your films developed by the local chemists and getting a load of easily damaged, flammable, creaseable, fingerprintable prints back, you could have them whacked straight onto CD. Armed with a suitable player you could then display Auntie Mavis picking her nose last Christmas on your TV set via a suitable player.

This scheme is not entirely in operation yet, so it is impossible to say exactly how it will work on an everyday basis, or even what quality the results will be. The CD-i machines will support PhotoCD but, in spite of their now embarrassing remarks to the contrary, the CDTV unit in its present form will not.

THE PLAYERS

In the music world a CD player is a CD player. Some of them may have 32x oversampling, infrared remote control and flashing lights, but to the consumer at the end of the day you put in your CD and music comes out of the speakers. Unfortunately the same doesn't hold true for the new generation of CD driven computers. They all adopt their software compatibility from the desktop machines that spawned them or, in the case of CD-i, are completely new machines.

That being the case we have compiled a special report on the players and some of the top-titles available for them. After all, if you don't have a player, you're not in the game.

CD-i



Philips's CD-i was not the first CD-ROM entertainment system on offer, but it currently has the most promised support. CD-i stands for Compact Disk Interactive and is exactly that. A normal CD player that has advanced graphics capabilities. The discs used are the standard CDs we've all come to know and will play on a normal hi-fi with CD capabilities. However, it is only when they are used with a CD-ROM machine that their true potential and content are released.

The CD quality audio is combined with video, text, animation and graphics with the promise of a Full Motion Video cartridge. Incorporating the latest MPEG compression/decompression hardware to be available by the end of 1992. This means that it will be possible to put music videos and interactive films on CD as well as fully animated interactive cartoon adventures like the ones we've never seen before.

The controller is at least as better than the Commodore effort. With ergonomic styling and a joystick as well as selection buttons, it is much easier to use and feels more 'natural'. Already a large array of accessories are available including a roller ball especially designed for children to use, a track ball, joystick and mouse. There are also plans for a touch screen facility enabling the user to merely touch a point on their screen for the interaction to take place. As with most innovative products there's a substantial lack of software, but there is some available.



CD+G music disks are released at the rate of about one a month. Even Lou Reed has got in on the act, but it has to be said that few are any good.

STEP FORWARD

into the world
music

...and it's a sound that has been loaded into a computer and is represented by numbers (digital) rather than waves (analogous). Usually a small cartridge that allows you to take sounds from a microphone (with amplification), tape, CD or vinyl record (digital) then into your computer's memory. Once in the memory a sample (sound) can be changed using the sampling software.

STEREO MASTER Allows you to alter sounds that have been distorted by the SAMPLER. Normal functions with sampling software include loading and saving a sample disk, altering the sample by cutting, speeding up/down, fading in/out, panning to other samples and much much more.

QUARTET Allows you to take samples and play them back in an order (sequence) that you determine. For example, if you sampled a piano note, a sequencer would allow you to play that note back at different pitches and in a sequence you decide. Your one note loaded into a sequencer can become a complete piece of piano music.

PRO MIDI INTERFACE A small cartridge which plugs into your Amiga and allows a MIDI instrument (usually a Keyboard) to communicate with the computer. If you already have a keyboard then you need to check that it has a MIDI Port and for it to work with a computer.

AMAS 2

Out of the range samples for the Amiga. Following in the footsteps of one of the best sound samplers ever produced comes the innovative AMAS 2. With even more features than the original Amas which was featured in the Paula Abdul music video 'Gold Hearted' this package is high in professionalism but low in price.

AMAS 2's features include software adjustable input volume controls, 3D display of sample frequency, stereo, stereo processing, stereo spectrum analysis, 11 customisable special effects, full midi support with keyboard mapping, built-in midi interface with 16 channel ports, microphone input port, Macro or stereo editing with full suite of edit controls, plus much much more.



SAMPLER WITH BUILT IN MIDI INTERFACE, SAMPLING SOFTWARE & MANUAL £98.95

QUARTET

Give your musical sequencing ideas the edge, make them more sophisticated than the basic. Imagine your samples as a quartet with QUARTET as the conductor. Your quartet is composed of 16 instruments or effects. Use play at any time line.

QUARTET comes with 100 instruments and effects. Each of your own instruments has further options to select using AMAS 2 and STEREO MASTER. It also offers quality samples, which can be used with the Quartet sequencer to create a 16 track multi-instrument keyboard with a full midi support to be played. Customise your own instruments, effects, filters, and more. With a built-in midi interface, sample and editing QUARTET. You know you could use as 'sequencer' or 'mixer' with highly customised options.



stereo MASTER

Our new stereo sampler is low in price but high in features. The new style mini cartridge plugs into the printer port on the rear of your Amiga and even includes a lead with a mini jack for immediate connection to your synthesiser or headphones socket on your amplifier. Once connected you can load stereo sounds, edit them, analyse them, and even change real time sounds by adding special effects to the output such as echo, pitch up, pan down and more. We even include a mini-sequencer so you can take up to 74 samples and sequence them into a piece of music.



NEW

PRO MIDI INTERFACE

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ABC SPORTS GOLF: THE PALM SPRINGS OPEN



We could not start with a more awe inspiring piece of software and I suspect that this game will be responsible for selling more than 80% of CD-I players so far. It's always been said that a game of golf ruins a perfectly good walk, but *Palm Springs Open* is a disc will make that adage redundant.

The course has been painstakingly recreated and stuffed into the machine by the use of thousands of real photographs covering every angle and accounting for every conceivable situation. Superimposed upon the breathtaking locations and back drops from some of the most famous and beautiful holes in the world, your player stands as realistically as the blades of grass he's crushing underneath his feet.

Every movement and swing of the club has been artfully composed from actual video footage of an amateur playing the holes. Every shot you take he acts out the emotions for you, perform badly on one hole and the camera will zoom in on his face and you can sit back and enjoy his reaction as he grimaces and farts his club to the ground in frustration. On the other hand perform well and you're rewarded with an insert of video footage as your ball sails through the air and your golfer punches the heavens.

As if the graphics weren't enough, each shot you take or situation you find yourself in is commented upon by two TV sports reporters. They offer the kind of advice and viewpoint you've come to expect to hear from the TV professionals and it can often be invaluable. And in a particularly nasty piece of rough and the duo might tell you which type of club to use or hint at you being really too drunk to get away with a shot with your present iron. Not only do they provide advice, but they are also a formidable comedy act with the straight faced American providing all the lead on for his snug and cheeky Aussie counterpart.

With all this incredible attention to detail and gobsmacking audio/visuals it would be easy to forget that there is a game in there too. You'll be pleased to know that it hasn't suffered either as all the normal options you've come to expect from such sims are in abundance. Granted it's not as in-depth as say *Microprose Golf*, but it's detailed enough to warrant serious attention. Amongst the adaptable and customizable options are the ability to choose your club, select the swing, chip, slice and elm your shots. You may also choose to practice on the more infamous holes like the Island green or skip the first nine holes to play the back and of the course.

Practically perfect and the first time out you'll need about four hours to finish a round, playing on your own. One hole actually took me 32 shots to complete! Never before has the phrase 'It's just like actually being there' rung so true. The comedy jibes issued by the American/Australian double act could wear a little thin after a month or so and there's no option to turn them off, but that's a small price to pay for such fascinating software. I'll keep coming back for more and so will you. I've not to meet anyone who wasn't impressed by this game and it only scratches the surface of the machine's true potential.

A VISIT TO SESAME STREET-NUMBERS



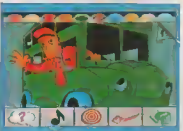
A warning now to any parents who are contemplating buying a CD-I and haven't made their mind up yet because of the quite steep price: do not let your child play this disc in your presence or you will be forced to sell the car, house, family jewelry and, quite possibly, your kidneys to get it. *Sesame Street Numbers* is just one in a series of discs compiled in conjunction with the Children's Television Workshop and the Jim Henson Puppets of the same TV fame.

The other disc in the collection so far is *Letters*. Each disc contains about three continuous hours of learning entertainment for children of three years and upward. Quite literally it is a joy to watch children play with the games and puzzles as the instantly recognizable characters appear to speak to them and welcome them into their world.

Everyone's favorite characters are represented with Big Bird, Elmo, Mr. Snuffleupagus, Oscar and, of course, the fabulous Count. You can explore Bert and Ernie's house, play with redies and broadcast Sesame Street songs, play with objects such as telephones, televisions, clocks and toys or simply sit back and watch actual animated cartoons from the award winning series that will have you singing along with your children as the marmosets come flooding back.

There are literally scores of interactive objects to play with as well as tons of games and puzzles all presented with the Henson magical charm. All the characters read and talk to the children and can actually remember where they've been and what they said the last time they were in contact. One section will even make your child pick up a ringing telephone in order to deliver personal messages based on a previous contact with the character making the call. Quite literally the best educational software I have seen anywhere. If you want to keep your children entertained and occupied during the holidays, or at any other time, then this is the disc for you. The TV sense has won countless awards and now you can sit inside that incredible show with an interactive disc that transcends the abilities and hopes that even the creators ever had for their episodes. Absolutely stunning, an essential buy.

CARTOON JUKEBOX



It's been a long time since I watched early morning children's TV, but when I did it used to be full of such small animated titles as those contained on *Cartoon Jukebox*. Primarily this disc is a sing-a-long venture with ten animated cartoon tales of poplar ditties. However, each of the traditional songs has a twist and the results are often hysterical. For instance, 'Old McDonald' is shown as a poor down-trodden farmer whose hilarious animals run riot clapping up all over the place and causing havoc everywhere, far from the ordered and idyllic scenes I pictured as a child.

Pop Goes The Weasel! is another classic tale that is given a Disneyesque touch by the cobbler's possessions coming to life and entering a world of fantasy and fable. There are over 50 pages of cartoons and what makes this disc extra special is the facility for your child to completely recolor every animation and see it come to life before their eyes.

TELL ME WHY 1

The first of two discs that are based on the best selling book series of the same name. The disc answers over 175 questions in five areas of interest that children might ask. The five subjects on this disc are Our World, How Things Work, The Zoo, How Things Began and the Human Body. Although they are quite informative, anyone old enough to operate the machine on their own will still be slightly curious as to some of the answers so don't expect to have a degree after watching the show.

The American presenter's voice can become quite irritating as well, but a good elementary introduction to a vast variety of topics such as how light bulbs and magnets work can be obtained from the series.



BATTLESHIPS



At first a visually disappointing adaptation of Milton Bradley's *Battleships* rescued from the sea of mediocrity by some quite stunning digitized video footage taken from the First World War. Player's moves and shots are interspersed with real video and sound of vessels doing combat in the Atlantic. The thunderous sounds of the long range cannons literally rock the room on half volume and bring a new air of atmosphere to the classic game. Either play against the computer, who does more than his fair share of cheating, or a friend and hear the splashes and explosions as the torpedoes hit or miss. There are three different firing methods to help things along and the winner is rewarded with his very own victory parade in glorious black and white. Ahh, the nostalgia of it, but it is a rather steep price to pay for just a simple game of battleships.

CLASSICAL JUKEBOX

No matter who you are or whatever walk of life you're from everyone likes some classical music. This disc not only attempts to widen your listening repertoire with some of the finest music ever written, but it also tries to educate you in the lives and times, trials and tribulations of the composers as well. *Classical Jukebox* lets the viewer read and listen about the colourful lives of 15 of the greatest composers who ever lived. The disk bathes you in their music while you read trivia on their lives, masterpieces and the times in which they lived. A better way of spending a quiet winter evening I can't imagine.

LUCIANO PAVAROTTI - O SOLE MIO

Bound to be a favourite with fans and karaoke singers alike

There's no better way to enjoy Pavarotti's work than to sit, listen and watch his music on a CD disc. Not only do you get 13 of his classic songs that can be played on a normal CD player, but also translations of all his lyrics and a discography of more than 20 of his albums.

There is also an option to explore his life and works with an exclusive and especially prepared interview with the man himself. With this disc you will gain a deeper understanding of the musical artistry of the operatic legend that has been unrivalled outside traditional media circles.

RANDY MCNALLY'S AMERICA: UNITED STATES ATLAS

The best way to describe this disc is an electronic travel atlas. *RAMAUSA* brings the sights and sounds of America into your home. Users can choose any location in the US and be given a guided tour of its attractions and have highlighted information on the local population, industry, economy and people.

The disc can be used to plan a holiday or an extensive trip by keying in all the places you wish to visit and then being led in sequence around them. Alternatively, you can experience the entire American dream by watching the white thing from end to end. Fine, if you've got four hours to spare!

TIME LIFE PHOTOGRAPHY

Take the opportunity to meet and study the works of three leading photographers and attend a series of 25 interactive workshops covering every aspect of modern photo-

graphic technique. This CD-i life actually converts any television screen into a simulated camera which can be used to shoot practice pictures. More than 1000 photographs are featured, as well as available information on the specific camera options and functions offered on the full range of 35mm cameras available today. It's possible to learn how to take perfect pictures by following the step by step narrative and examples and, although this wouldn't be a recommended disc for professionals, it gives a good grounding in the basic techniques for the ardent amateur enthusiast.

TREASURES OF THE SMITHSONIAN

Treasures Of The Smithsonian takes you on a guided tour

of the 14 Smithsonian buildings, parks or galleries in America. The tour encompasses over 200 of the American museum's greatest and most precious exhibits, providing a font of valuable accessible information for anyone interested in such topics as the history of aviation to the steam engine. Of the many options on the disc you may browse through any of the museums at will or embark on a guided tour.

It's even possible for you to walk around objects such as statues for extra scrutiny. A fascinating disk that is bound to be popular with other museums and schools alike.

MEGA CD



SOL-FEACE

The difference between *Sol-Feace* and all the other Megaverse shoot 'em ups is that, not only does the game have the usual space-baby shoot 'em up storyline, it actually gives you an armistice.



forming preflight checks, and streaking off into the galaxy to do battle over distant asteroids.

The reason you don't get that on your standard Megaverse shooter is that these memory-intensive graphic sequences are read direct from the CD. But don't think that all the Mega-CD unit is capable of

adding in a game.

One of the other features of the Mega-CD's graphic hardware is its ability to rotate sprites. As your *Sol-Feace* fighter zips across the game's six alien landscapes you'll witness robot claws on the ends of rotating armatures, giant androids which swing their arms through 360° and a bizarre mechanical spider with nasty, clunky legs, all of which look quite spectacular when you first see them.

Sol-Feace also uses the Mega-CD's PCM sound chip to produce some excellent effects, such as the sound of hydraulics when a huge satellite extends its metal arms, and, curiously, some rather lively noises which pass for firing effects. Music is read from the CD, of course, and the tunes are suitably up-tempo and provide a good backing to the action.

The game itself is pretty standard fare - fly to the right of each level, blast the boss and start on the next planet - but at least the power-up system is innovative. You can bolt guns on to the top and bottom of the ship and aim them independently by swinging them through 45°. You can then mount different guns above, below and in the middle and thus use three different weapons at once.

Sol-Feace's other asset is that it's quite a fast blast which isn't too easy to confuse to be of a rarity on the Megaverse these days. It's a shame that it didn't make more use of the Mega-CD's features, but then it was the first CD game to be released and programmers always seem to need time to fully get to grips with new machinery. There's definitely better stuff to come. A good, solid blast, but really nothing special.

PRINCE OF PERSIA

Now here is a game that couldn't feel Jordan Mechner's Persian platform adventure has made it onto almost every conceivable format, and every version is an amazingly addictive game.

With that in mind, hoos were extremely high for the Mega-CD version. Okay, maybe there wasn't going to be room in the cartridge for sprite rotation and scaling, but all that CD space would surely mean loads more levels than the original's twelve (I mean,

even the Super NES version had 20) and there was bound to be a new, orchestrated soundtrack for each level. Surely?

Alas, the Mega-CD *Prince of Persia* features no new levels, and only has a couple of tunes (good ones though) which back the action. There is, however, a cartoon intro which features an instant of sprite scaling, and the soundtrack on the disc is superb. The plot (escape from palace dungeons and kill evil Grand Vizier in one hour to save beloved princess from extinction) is the same as ever, as are those superbly animated, running, jumping, sword-fighting sprites. These are slightly more detailed than the Amiga version's, though the colours and styles of the backgrounds are similar.

The puzzles are as infuriating as those in every other version, and the controls are unusually dodgy until you get used to them (probably due to the fact that it's difficult to get directions accurately on a joystick). And yet, once you've started the game, and worked out the intricacies of the movements and the traps, there's absolutely no chance of quitting before the end of level twelve (I know I didn't), but then that's probably because the game can save twelve positions to the battery-backed memory in the Mega-CD unit. With or without sprite rotation, this is a great game, though I'd be surprised if this (minus the music, of course) couldn't have been fitted into an 8-megabit cartridge for use on the nonexpanded Megaverse. Excellent, but does it need to be on CD?





The CDTV was the first dedicated stand-alone CD system to reach the market. Unfortunately, although it has been on sale for quite a while it's still failed to clock up the numbers, with sales only barely into five figures. The launch of the A570 (and soon the A570 and the 2000/3000 version) should help to get more software developers interested which, so the plan goes, will develop into a spiral of more software -> more users -> more software.

At the moment things are looking up. There are lots of impressive pieces of software in development, including the stunning Microcosm from Payagoras and the equally interesting CDTV Football being produced by Commodore themselves.

HEROIC AGE OF SPACE FLIGHT - NASA THE 25TH YEAR

This is the first in what promises to be a fantastic series of interactive compact discs from Troika. NASA The 25th Year runs for over 50 minutes and chronicles the American space teams epic struggle to conquer the stars over the last 25 years.

By using an extremely effective blend of real documentary video footage from old news reels and scores of easy to access menus, the disc allows you to sit back and watch the whole story of space flight unfold before your eyes. The CD is crammed full of information that can be located at a click of the remote buttons and called up in an instant or you can simply watch the entire movie's experience from start to finish.

scenes are prone to show a slight bit of corruption around the edges on occasion. Up sync to the footage is not as accurate as it could be in the future, but after all this isn't Full Motion Video yet. That being said the subject matter is so fascinating that all these minor points are easily forgotten as you get sucked further and further into the disc. There are loads of menus that can be divided into sub menus so you don't have to wade through the entire 50 minutes to find specific parts that you want to recap on and there's a great deal of information and reference material on the planets as well as the different craft that have made the voyages into space.

What you get with NASA The 25th Year is a permanent record of the earliest and latest stages of space exploration in one compact source. Anyone can dig out an encyclopedia and read about the events contained on the disc but that's absolutely no substitute for experiencing the sights and sounds of the era on the screen. NASA is easily the most impressive piece of CD software I've yet come across on the CDTV and provides just a small glimpse of the machines real capabilities. I hope that there are a lot more to come and no home should be without this disc.

THE HUTCHINSON ENCYCLOPAEDIA

The Hutchinson Encyclopedia's grounding lies in the books of the same name. The Hutchinson literary works have been gathering information from the four corners of the globe for over 40 years and now it's all been brought up to date and into the 21st century with this compact disc.

The cover player contains over 25,000 separate items with over 2000 pictures and sound recordings from the BBC's archives. By simply clicking on the relevant icons you can call up literally thousands of bits of information whilst examining pictures and hearing any historic or relevant sounds that might accompany them. For instance, call up Jon McEnroe and you'll receive a brief, but concise account of his tennis career, recent and useful pictures of the man himself and also the option to listen to his infamous 'the ball was in' speech delivered to a Wimbledon Tournament referee. In front of several thousand tennis fans.

All the information contained on the disc can be accessed via any number of menus and searching facilities. Although they are a bit slow at times they're considerably faster than the human hand and just about any topic can be located and brought before your eyes in under seven seconds. Apart from the audio, editorial and pictorial information there are a great many maps that can be utilised to find most destinations in the world or help out with that geography home work. There's no video, though, which is a shame but when you're trying to cram as much in on a disc as possible there have to be some casualties. Everything you find on the disc is totally cross referenced and when you have dragged your chosen topic to the surface, some arrows at the bottom of the screen will allow you to look at the previous page and the ones shown after. Alternatively there's a more traditional index that lists and locates every instance on the disc where the specific word you've chosen is used and then pulls them out for you to peruse at your leisure. In succession.

Every one from Marilyn Monroe to Bruce Lee can be found, and everywhere from Burton-Upon-Trent to Wembley Stadium is documented, making an invaluable referencing tool that the whole family can use easily and quickly. There's even the

opportunity to connect your player to the TV and access the encyclopedia whilst you're watching the television to see if it can throw any light on a problematic topic. Great stuff that's a lot of fun!

TRIVIAL PURSUIT

A rather comical representation of the popular

board game. The rules are the same and sufficient enough. The first person to collect six different coloured wedges representing the six different categories of questions from around a multi-coloured board can make their way to the centre and have a go at answering the winning question.

This version adopts a haughty old bird to host the rounds and keep an eye out for any skill-dugger (cheating!). Each category of questions, geography, literature, history, etc. has its own representative who is introduced by the bird with a very humorous cartoon animation. Maci West deals out the entertainment questions and Christopher Columbus the geography to name but two. The bird chips in with the odd quip and generally helps to keep things rolling in a light hearted manner and it all seems to work exceedingly well. You can cut through some of the trimming though so you don't get too bored with repetitive comments, but the best thing about CD Trivial Pursuit is that you can play it on your own. This game is even better than its original table top cousin. It'll take you ages to exhaust all the supplied questions and when the first disc runs dry there's another full one included in the package as a reserve. Excellent.

LEMMINGS

If you haven't heard about Lemmings by now you should go and look them up in The Hutchinson Encyclopedia. If you do it'll probably say something like 'small furry nocturnal creatures with a



misfiring lack of brain cells and a love of danger' which is more or less what their game counter-parts are. The idea behind the Payagoras monster smash was for you to use your brain cells and the Lemmings constructive talents to guide a preset number of the critters out of harm's way, over all potentially dangerous and obnoxious objects safely to the exit located somewhere on the other side of the screen. You'll be pleased, or displeased as the case may be, that the CD version is no different to the Amiga original right down to the sound effects.

What you do get though, if you invest in this version, is not only one of the greatest games of all time, but a sneak preview of a future CD game in the pipeline called Flarebirds (now renamed Microcosm). Select the icon at the beginning of the program and you'll be treated to a fantastic animation of breathtaking speed and detail as a fighter skims over a planets surface chasing a drone. This demo has been out for ages and the game proper is progressing nicely having undergone major changes since this particular demo was put together. Hopefully, we'll be able to do a work in progress on Microcosm in the very near future. It's certainly worth looking forward to as the finished game will probably help hog several thousand CDTVs all by itself.

THE CONNOISSEUR - FINE ART COLLECTION

Now this is the sort of software Commodore were hoping would sell their CDTV baby to an entirely new consumer when it was first released. Immediately the CDTV was targeted at the older user, the sort of person who was into the quieter more relaxed things in life and not at all interested in those new fangled games thingameys. They were so desperate to attract this new consumer that they tried to pretend that essentially what everyone knew to be correct, i.e. that the CDTV is basically an Amiga in a box with a CD-ROM was wrong. How quickly they changed their minds when sales

didn't take off

Anyway with *The Connoisseur* you are able to enjoy over 400 works of fine art in your own home. The disc uses full colour pictures of the most famous paintings in the world and covers nine periods of art history from Classical Greece through to the 19th century Impressionists. The disc is topped up with all kinds of notes for each period, artist and painting and there's even some classical music covering the times thrown in for good measure. Not everyone's cup of tea and there's nothing here that you couldn't get out of a single book

NORTH POLAR EXPEDITION



have to admit, Sir Rennilph Finneas is one of my all-time heroes. He belongs to the old school of British explorers when we could still hold our heads high in some areas of endeavour. If anything he had been achieved that was remotely notable in the world you could be sure a Brit had a hand in it somewhere.

So it's with great distress that I opened up the rather large box that has since become this game's coffin. The basic idea is for you to guide a group of intrepid explorers along the way path that Mr Finneas tracked all those years ago when he circumnavigated the world and made his epic journey to the North Pole. By simply answering a series of multiple choice questions at the beginning you are thrust into a tent at the beginning of your journey.

The game throws hazard after hazard at you as your tents catch fire and skodds run out of petrol by simply choosing the right response from a list of answers of what to do the computer determines your progress. This is dire and boring stuff indeed. The game isn't even saved by the use of actual photographs taken enroute during the original expedition.

This could have been an excellent interactive adventure. But it's not. If you want to experience the thrill of Sir Rennilph's adventure you're much better advised to sit down with a copy of his book *The Ends Of The Earth*, which as it happens comes free with the game. Good reading.

CD-ROM FOR THE IBM PC



The main use of CD technology on the PC at the moment is CD-ROM. Although the technology is still relatively new, there is quite a substantial software base already available for it, covering everything from games to business utilities. Multimedia PCs (or MPCs as they're being called) are starting to crop up everywhere and most of the major software houses are taking note.

Although the majority of games supporting CD-ROM are currently just showware - nothing floppy-based games shucked onto a CD with no modifications - several companies are starting to test the water with CD-ROM specific titles. Virgin's *Inherent The 7th Guest* is one such game, using full-motion video and digitised sounds to create the illusion of walking around a haunted mansion. Ghosts hover in between tables, pictures ooze out of their frames, people wander around going slowly mad, all in Super VGA video motion.

CD-ROM's only main drawback is that disc accessing time is still comparatively slow compared to conventional systems and in its present state it doesn't look like becoming a serious threat to replacing hard drives. It's getting better though and before long it wouldn't be too surprising to see CD-ROM drives becoming standard fittings for PCs.

SHERLOCK HOLMES CONSULTING DETECTIVE



The only thing really wrong with this digitised delight is that it doesn't have Jeremy Brett and Edward Hardwicke as Holmes and Watson. What it does have, though, is around 90 minutes of full-motion video. Three separate cases and awful English accents.

The first time you load up the game you are guaranteed to have a crowd around you. The animated casebook flips open and the master detective appears on the screen, nestling in his armchair and clinking his pipe. Introducing you to the game. You'll tend to notice the occasional pauses while the disc accesses the next segment of video, but providing your machine is fast enough it isn't much of a problem.

Each case starts off with a video clip setting the scene, from where you set off around London to eliminate the impossibilities and solve the crime. You can consult pages from the London Times,

send your Baker Street Irregulars off to follow people or even call in on the bumbling Inspector Lestrade. Each time you visit somewhere pertinent to the case you are treated to another video segment. What's nice about it all is that the video isn't everything (although it's tempting just to keep watching and marveling at it all). Clues can be gleaned from plenty of sources and, as with the real thing, it's extremely difficult to come up with the solution.

That's possibly its other problem: it can be a little frustrating for novice adventurers. Luckily, scenes can be replayed for those not quick enough to spot things first time round. The whole business of looking up files in your notebook, comparing them to information in the newspapers and sending off your Irregulars to investigate is a good example of the other main use of CD-ROM, the ability to store lots of data and cross-reference it with ease.

As a game you may tend to find *Sherlock Holmes* a tad on the lanky side, but then it would be pointless to let you solve it all in a week. Despite this, *Sherlock Holmes* is an amazing product, both to play and to show off CD-ROM's capabilities. It's kind of fortunate that this product has arrived as early on in the CD-ROM's evolution as it does, as it only means that future products, both from ICOM Systems and others, will be even better. Just look at the floppy-based software industry for an example.

THE CHESSMASTER 3000

As chess games go, the Chessmaster series has



always been one of the strongest names. The Chessmaster 3000 was available before this multimedia version was produced, but unlike the crop of showware that dominates the market, The Software Toolworks has actually made some significant changes to take advantage of the technology.

The most notable of these changes are the audio files that are now used for analyzing games, offering advice and teaching you the rules. For the 'Chessmaster' you get an elderly but wise sounding man, for errors and rules you are taught by a soothing female voice.

Not only voices but graphics. Full 256-color VGA is used to display the board and the pieces and 3D modeling is used to allow the play area to be placed in any location. You're also allowed to annotate your own games should you have the use of a microphone. The other main use of the CD is to store this data from classic games of chess and use them in the game, either to analyse or as a setup for a computer opponent.

Chessmaster 3000 only simply has virtually anything the professional chess player can want.

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LOOM

Lucasfilm has been promising its fans CD-ROM

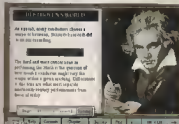


games for some time now, so Loom is very much going to determine whether the American storytellers have got the right format or not. Quite frankly, I was never all that impressed by Loom and consider it to be a strange choice to launch its new series — surely one of the *Monkey Islands* or *Indiana Jones* adventures would have served as better games pigs?

The main selling point of *Loom CD-ROM* is that it's a talker (to quote Lucasfilm for a moment). There is now no text on the screen (unless the player actually wants some) with everything now being spoken to you by actors and actresses. Funny enough, the original game came with an audio tape to act as a kind of introduction to the story, which was fine except that it wasn't very well done: the actors were all busy hamming it up no end and you couldn't help but laugh at it. Now this is what the whole game is like. Still, it is a good use of the technology and it shows that Lucasfilm are committed to giving the customer more than just shovelware. Personally though, I consider *Sherlock Holmes* (see below) to be more of an interactive film/story than Loom.

MULTIMEDIA BEETHOVEN

It has possibly one of the most perfect examples of what true multimedia is all about. *Multimedia*



Beethoven is a complete reference guide to the great man's works and life, compiled by Robert Winter, music professor at UCLA (University College of Los Angeles). The multimedia aspect means that you can access and play his ninth symphony — both through CD-ROM and on a normal CD player — while looking through reams of text and illustration about the man and his music.

One of the more unique aspects of the software is the section on how to listen to Beethoven's works. Winter takes you through all the subtle nuances the roles of the various instruments and the very concepts of his work.

It's this degree of education through entertainment that really makes the product special. Should unfamiliar terms crop up, call up the glossary. If you want to study while listening to the music, just

press the button(s). *Multimedia Beethoven* is a true essential for the classical music fan that wants to understand more about the music he or she listens to. It's also a wonderful use of CD-ROM and can only bode well for other subjects wishing to make use of the technology.

MICROSOFT BOOKSHELF FOR WINDOWS

Microsoft

Described as an invaluable reference guide, Microsoft's compilation disc of the *Hammond Atlas*



of the World, the *Concise Columbia Encyclopedia*, the *American Heritage Dictionary*, *Barlett's Book of Quotations*, *Rogers' II Thesaurus* and *Whittaker's Almanac 1991* is designed for Windows users wanting quick and easy access to a host of facts.

Quite simply you just click on the Bookshelf icon to open up the first menu — a nice graphical representation of a typical home library, complete with book ends — then either select the book you need or use the Search function to find specific mentions of specific topics. Cross-referencing is as easy as asking it to find 'All mentions of General Custer' except in the *Encyclopaedia*.

The various books are all well represented, with animated illustrations, digitised graphics, sound effects, music and speech being used to clarify sections of the encyclopaedia: give examples of correct pronunciation and displays of famous musical scores.

If you have to find faults with it then look no further than its obvious American bias. Asking the dictionary for the pronunciation of the word *route*, it gave me 'ROWT', and asking the almanac to name the top 50 television shows of last year, we get the American charts. Still, little bibles aside, the *Bookshelf* is extremely handy for anyone in need of information at a touch of a button.



THE STATE OF PLAY

It is still a little early to tell what volume and quality of software will be written on the different machines. The CD-I has the advantage that developers have to start almost from scratch, and they thus avoid the 'shovelware' trap, where developers just transfer floppy software to CD without making any enhancements. Unfortunately that means it will take longer before a consistent degree of programming competence is achieved.

Although the CD-I has greater promised support, it seems unlikely that Sony or JVC will jump in until Philips have tested the water. Meanwhile the quality of software on the CDTV has improved dramatically over the last few months and with the release of the A570 there is a greater potential market for developers to become interested in.

The MegaCD certainly takes the console threat into the CD arena, and whilst not as high profile just yet it does have the night of SEGA behind it. Meanwhile the sale of IBM PC CD-ROM drives is unlikely to greatly detract from anyone else's chances — and vice versa.

Makes no mistake that the computer companies are beginning to see CD-ROM as a source of 'hot' grail. 'This is where the future is headed,' they have decided. Though, like perogues at the edge of an ice-floe, many are just willing to see if the first brave few get eaten alive, they'll end up jumping in eventually. While we wait further developments, we'll be covering you informed of all the new software titles that come out to the movie stand, with particular attention focused on Commodore's CD32. Well, after all, we are an Amiga mag!

THANKS

This feature would not have been so impossible without the following people:

Steve Krenn - CDTV and CD-I
Paul Gieney - Mega CD
Paul Pringley - PC CD-ROM

Many thanks also to Sarah Audland at Matrix, Thomas and Mike Wensley of Westpoint creative for letting us play with expensive equipment.

SORRY

Well, we have to admit it, we quite carried away when compiling this feature that we just plain ran out of space. At the first count we were well over 12,000 words (about a fifth of a novel) so we decided that to do either of the obvious things — cut out some of the text or squeeze it all into seven pages — would leave you, our readers, with a bad case. Instead we've decided to hand over the sections on asking your multimedia epic and the salutary tale from developers who already have mastered their own CD-I will next month when we can give it the space it deserves.

We apologise for any inconvenience this has caused and promise not to try and attempt the impossible quite so often in future. We now return you to your normal magazine.

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E & OE

THE HISTORY of COMPUTERS

The year was 1986, an important milestone as far as every Amiga owner is concerned. Commodore launched the A1000 to much hoopla and critical acclaim and the battle with the Atari ST was on. Christina Erskine remembers it well...



1986

AMIGA LAUNCH

Launch of the year in the UK was the long-awaited debut of the Commodore Amiga, shown at the Commodore Computer Show in May in its original A1000 configuration. Hard to recall that this beast would set you back a cool £1,696.25 at the time, and that Commodore was busy denying its potential as a games machine.



Feargal Shaney shows off his amazingly good taste in reading matter – which is more than can be said about his school.

Meanwhile the rival S205T was selling strongly at £900 (with a colour monitor) – Commodore had, in effect, given Atari another year's head start.

Just as significant in the long term was Amstrad's decision to up-end the stuffy PC market with a range of IBM-compatible machines at prices cheaper than much of the software available for them. Amstrad did not, however, condone the low-cost clone revolution all on its own. In fact, as component prices continued to fall sharply, the market was wide open for companies such as Spectrum with the Bowdwell machines, Opus and Tandy to produce PCs at low prices between £600-£1,000.

PRICE FALL

Amstrad's PC1512s, starting at £469, were even cheaper. In addition, you could pick up a PC1512 from a High Street store such as Dixons rather than going through a specialist dealer, and Amstrad's high profile in the press ensured that for a while the word Amstrad meant 'low-cost business computer' in much the same way as 'Hoover' means vacuum cleaner.

The potential of the games console, back in a new and technically advanced form, raised its head with the arrival of the Sega Master System in the autumn. Other new machines were simply variations on a theme. Commodore added an in-built disk drive to the C128 and called it the C128D, and later in the year put the C64 into its familiar ivory casing. Amstrad added another 256K RAM and a second disk drive to the PCW, the Spectrum became the Spectrum 128 in February and the redesigned Plus 2 version came out in the autumn (see below). Alan produced a megabyte version of the ST, the 1040ST. Acorn upgraded the BBC standard at long last, bringing out the Master series.

SINCLAIR BUY-OUT

Alan Sugar buying out Sir Clive Sinclair was the sort of event that turns up in school predictions – in April 1986 it actually happened. No-one was surprised that Sinclair was being bought and following the Maxwell debacle the previous year. That it should be Amstrad, whose chairman Alan Sugar had been wont to refer to the Spectrum as a 'pregnural calculator', made it the story of the year.

Amstrad spent £5 million on the Sinclair name, its stock and the rights to its technology. Sinclair Research continued to exist, and Sir Clive, free from the encumbrance of debts and warehouses piled high with Spectrums and QLS, went on to form Cambridge Computers to develop portable computers (the 288 came out a year later) and Amstrad to further research into watercraft navigation. Amstrad dropped the QL like a stone and took just four months to put together the Plus 2, with its conventional keyboard and integral tape deck.

The Prestel hackers, Steve Gold and Robert

Schiffman, made the news again when their case (see last month's installment) finally came to trial and the pair were found guilty of forgery. The fines totalled £1,350, the costs a further £2,000. Gold and Schiffman immediately appealed and the case ploughed back into the courts.

'ERE WE GO

In May, US Gold, software publisher with the Midas touch, slipped up. It had pulled off a coup in acquiring a computer games licence to the 1986 World Cup and all was set for a sure-fire number-one game when the company discovered it was unable to get an original game based on the World Cup out in time.

Outragedly auctant, the company went ahead with all the intended packaging – the badges, the sponsored posters – and in the absence of an original program included Aris, a two-year-old World Cup Soccer. Which perhaps hadn't been a disaster in itself, but World Cup Carnival wasn't being billed as a re-release and at £9.95, it wasn't priced as one.

Amstrad's moves to make PCs affordable may have delighted the masses but the company encountered

WHERE ARE THEY NOW?

Ultimate Software were one of the undisputed masters of Spectrum programming with hits such as *Saber Wolf*, *Night Lord* and *Alone II*. The company dropped out of 8-bit programming shortly after being taken on by US Gold at the beginning of 1986. Leading Ultimate personnel set up a new company, NARE, to develop programs for Nintendo game consoles. Now have no links with the British market.

GAMES OF THE YEAR

Driveline was everyone's idea of the ultimate smooth scrolling shoot 'em up. Driveline, with its 3D graphics and fast scrolling, was one of the first games to demonstrate the potential of the 16-bit machines. Acorn's gold simulation, *Leaderboard*, was a firm favourite for its playability.

SAYINGS OF THE YEAR

'If it's the difference between people buying the machine or not, I'll stick a bloody tin in it. And if they say they want bright pink pants as I'll do that too. What's the use of me buying my head against a brick wall and saying, "Yes, I don't need the damn tin, ummmm?"' Alan Sugar, after the 1512 overheating controversy in 1986 (quoted in *Financial Weekly*, October 1, 1987).

CODE MASTERS FOUNDED:

October 1986. The Codemasters met up by brothers David and Richard Darling and their brother Jim, after a year of writing for Macintoshes. Prior to that David and Richard and within VHS games under the name of Dialectic Software while still at school.

Codemasters published on the plus 'see high, and 'see cheap, built, lots of titles, all of them low buy prices. An extraordinary high profile PR campaign in 1986-88 by West End successfully Lyned Fraser put the Darlings on TV and in the national press, making them one of the most low programming 'celebrities'.

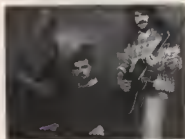
First title: *BMX Simulator*. Next known title: *Driz* series of games.

szamun hostility in the corporate market. In a matter of weeks after the launch the word was going round that the PC1512 tended to overheat. Amstrad acted with characteristic simplicity. Alan Sugar called the rumours 'a pack of lies', apologies were sought (and obtained), and, in October, Amstrad reluctantly instigated a cooling fan in the PC1512a, with chairman Alan Sugar making suitably belated remarks about the need for the fan in the first place.

1987

ARRIVALS AND DEPARTURES

The launch of the Amiga 500 and A2000 in March gave gamers a straight choice between the A500 and the 520ST as high specification leisure machines. Software houses backed down to produce titles for the two, although Amiga buyers were often frustrated by publishers' tendency to develop games for the ST and for the



Oh, how we laughed. Live! But in our our cabinets to this day, these pictures of these disasters belie anything but.

Amiga version to be something of an afterthought. But then at the time, some people were still sceptical about the Amiga 500: 'it was £100 more expensive than the ST, which by then had been an sale for 15 months.

The Spectrum that everyone had been waiting for, the Plus 3 with a built in disk drive, duly appeared in May And a year after the Amstrad ban-out, we saw the fruits of Sir Clive's labours since then with the Z88, a laptop machine which had started life in another era as Pandora.

Amstrad enhanced its PC series with the launch of the PC1640, and a range of portable machines in the autumn. Alan introduced an up-market version of the ST standard, the Mega ST, and Commodore began its attempt to go back to its business roots with a range of PC compatibles.

ARCHIMIDES DEBUT

All these machines were widely expected and with the possible exception of the Z88 held few surprises. 'It was left to Acorn, of all people, to provide the year's most significant launch with the first Archimedes machines. The Archimedes 200 and 400 machines used Acorn's own RISC technology - and were something of a world first at the price. They ran at a blistering 4 mips (millions of instructions per second), it could display 256 colours per pixel on a palette of 4,096 at a screen resolution of 640x512, and the eight voice digital sound could play in glorious stereo.

ELECTRONIC ARTS FOUNDED

09-1982 (UK): April 1987

Tim Knicker left his position as director of marketing at Apple Computers to go to Electronic Arts. The company moved to produce products in the emerging entertainment and creativity market. Archimedes games such as Pinball Construction Set, Aladdin and Archon, the paint, graphics, animation and music Deliveries series line, in its various incarnations, became a classic. The UK division of Electronic Arts was set up in 1987, producing European-developed products on word art programs imported from the US.

First title: Pinball Construction Set
Next business games: John Madden, Populous.

GAMES OF THE YEAR

Unlabeled Military Simulator, from Heinicke, called the myth that videogames, however intelligent, but to appear on-screen as though they were programmed as a Z801.

Incentive's Driller proved that great league forward were still possible on 8-bit machines. *Nobun, Ivan Hansen*, was a highly original arcade-style game, well up to the company's usual standard. *Gold of Thieves* established that *Magnate* *Scrooge's* *Pawn* was only the beginning.

SAYINGS OF THE YEAR

'Pan An taken good care of you. Marks & Spencer issue you. See, see! Come ... at Amstrad: we want your money'.

Well-knowns *Sugar*, quoted in *Financial Weekly*, October 1, 1987, and many others.

And just in case I wasn't abundantly clear that here was the ultimate games machine. David Braden had run up a little number called Zorch to demonstrate the Archimedes' mouth-watering capabilities. Zorch was a wonderfully smooth arcade game which made most ST and Amiga offerings of the time look rather shy, and to compound the insult: a numerous immediately hearted round the industry that Zorch was just a few tens of Archimedes BASIC. I wasn't, of course, but it seemed one of the few adequate ways to explain the power of the machine.

The Archimedes-as-games machine debate still rages. The main problem for the original 300s was that while £1,200 was a startlingly low price for a RISC machine, it was too high for a games micro. Secondly was the problem of support: games programmers were only just getting to grips with the possibilities of the Atari ST and had scarcely begun to tap the resources of the Amiga's custom chips. That they would all be able to master RISC in their spare time was just too much to ask.

VIRUS KILLERS

Virus: the first time in November, when Alan owners were startled by his message 'Something wonderful has happened - you're Amiga is alive'. A Virus Killer package was only programmed and distributed. I all seemed like a fine day world.

Now that PCs, such as Amstrad 1512s and 1640s were going into the home, it became worthwhile for companies to start producing PC games software or importing from the US, where the PC was outstripping the ST and Amiga put together as a home machine. The UK, very slowly, began to catch up.

In July, Steve Gold and Robert Schifano, now collectively known as the Prestal hackers, won their appeal against their conviction to lengthy after breaking into Prestal mailboxes back in 1985. British Telecom decided to appeal against the appeal and the case went to the House of Lords. The saga finally came to an end in 1988, after three years going through the courts, when the Law Lords ruled that the appeal which gashed Gold and Schifano's convictions, should stand.

1988

AMIGA GROWTH

After the failures of previous years, 1988 was a quiet one for new machines. The games market looked settled with the Amiga and ST battling it out for the high and market and the Spectrum, Commodore 64 and CPC taking care of 8-bits. The only unknown quantities were the much-predicted return of the consoles - particularly the rather pezzing fact that while Nintendo was flexing its muscles and cleaning up in Japan and the US it was virtually invisible in the UK - and was wasn't there a boom in PC games?

In addressing the last question, Amstrad topped not for the first time. At the same time as launching a set of

PCs designed to give Amstrad its bark in the corporate market. It also tackled the home PC, the Spanish PC200. Demonstrated alongside the PC2000s, which had state of the art VGA graphics screens built in as standard, the cheeky CGA display on the hapless PC200 showed up its own falling straightaway. Here we had a PC intended to play games (here were two US Gold titles bundled with it) and its graphics were already out of date. On the other hand the use of an integral 3 1/2 inch disk drive rather than a 5 1/4 inch version was ahead of its time.



Our revered Publisher shows off his entirely realistic hunch-buck impression. You could have a body like this. If you drink 60 pints a week!

Altogether it was a most un-Amstrad like machine. To make matters worse, when shipped of the PC200 reached Comet, many were furious originals minus leads, minus operating system disks, etc. This PC200 got off to a bad start and never really recovered.

EAST ENDERS

Alan Sugar, chairman and founder of Amstrad, and if you believe the Amstrad game making machine, an East End barrow boy made good (although more reliable last would have it that the man does possess three stone A seven) was awarded an honorary degree by City University, London.

After seven years in which the price of chips fell consistently, a succession of measures taken in the USA to protect its own semi-conductor industry against the flood of low-cost chips from Japan led to component prices rising and a worldwide shortage of DRAM (dynamic memory) chips. Hardest hit were the low-cost PC clone manufacturers, with their large inventory, low profit margins. Amstrad was forced to raise prices a couple of times during the year. Alan took the opportunity to put the ST back to £399. Only Commodore managed to remain aloft on this pricing see-saw.

And then, in June, Commodore finally brought the price of the Amiga down to £399.99, and sales of the machine took off at long last. For the first time the ST and Amiga were selling at equal terms. The ST had been setting a few records, but on taking the price up to £399, Alan put the first of its multi-game bundles together - with 20 games in the box.

GAMES OF THE YEAR

Robocop, from Ocean, seemed just like any other (the license of the time, it went straight into the chart at number two at Christmas - few guessed it would still be there a year later). *Microseft's Tetris* was intriguingly developed in the Soviet Union, and proved to be one of the most addictive games of all time. *Oversea Master* took the lightweight B&B genre several steps further, while EA's *Flight/Combat sim Antares* combined brilliant 3D graphics with ball-playing aerial action. *Wings* was the ST and Amiga version of Zorch, the game which and wound everyone at the Archimedes launch.

SAYINGS OF THE YEAR

'I believe people are worst, not dumb. If you can play people *Auto Racer* for the price of Volkswagen, I'm sure they will buy this.' Jack Tramiel, interviewed at the Cebit exhibition in Hannover, March 1988 about Atari's underperforming policy.

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Haunted House helps extend a child's vocabulary teaching all about homophones (their/there, cough/through etc)

TEST YOUR STRENGTH



Children use the hammer to bang the gang in Test Your Strength - and discover for themselves lots of unusual plurals

CIRCUSWORDS



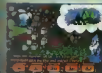
Circuswords. Children will love seeing the human cannonball come to life as they complete crosswords using both new and familiar words

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For 7 to 11 year olds

- ★ Merlin the Wizard guides the child through exercises in counting, decimals, fractions, adding, subtracting and volumes.
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Here, Merlin build the castles by completing measuring, adding and multiplication calculations in Broken Rattlements.

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Crystal Conference. Get the sums right and watch the knights of the round table enjoy their banquet

MERLIN'S MATHS



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SCREEN SCENE

Read the
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Screen
Scene!

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first

ROME MILLENNIUM

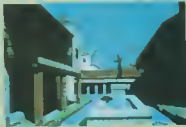
Imagine what it must have been like to be a Legionnaire, marching proudly through Rome, home of your superiors. Rome in the year 92AD was a sedulously dangerous place, filled with feuding families and over-zealous soldiers. It was also a place of great scheming, full of people who wanted to get to the top. In Rome 92AD, you play one such person — a slave who would be emperor.

The game design was actually taken from a boardgame idea created by one of the top buds at Millennium last one evening, and since then the initial idea has grown into the huge, scrolling isometric adventure it is now.

One thing Millennium have tried to do is make the main character as flexible as possible. A bank of icons on the left of the screen give all the available commands — a list that changes as you move through the game. For example, if you stand next to somebody, a button marked "Speak" will appear, whereas if you stand next to the Roman baths at the start of the game, someone will remove their toga and dive into the water, at which point a "Steal" icon will appear and you can run off with their clothes.

There are dozens of intelligent characters in the game, and they all interact with each other, carrying on their own lives as though you never existed.

Rome 92AD, will be out in October and should definitely be worth a look.



82% and a game is worth a Superstar. We hardly throw them around, but if a game gets one it'll be completely outstanding.

A CIB Screen Star is for games scoring 80% or more. If a game gets one of these, it'll be of testing quality.



IMPRESSIONS

DAUGHTER OF SERPENTS

MILLENNIUM

Daughter Of Serpents is unlike anything we've seen before. A graphic adventure on its lowest level, *Serpents* places you somewhere in Egypt in the 1820s, and it's possibly the best-researched game ever. Programmed by Eldritch Games, known as perfectionists throughout the industry, the game so far manages to capture the 20s mood perfectly.

You choose one of four professions before beginning the adventure, and whichever one you choose greatly affects the way the adventure plays and is solved. For example, if you are an historian with an excellent knowledge of hieroglyphics, then you'll have no problem at all recognizing the ancient magical teleportation capsule in the museum. If, however, you're a journalist with no knowledge of Arabic, you'll miss this part of the game completely.

The game has been designed to be as easy to play as possible, and like so many graphic adventures these days features an intelligent mouse pointer that changes when it passes over certain screen items. Conversation is held within speech bubbles, but apart from that there is no on-screen text.

The attention to detail is staggering. Everything about the town of Alexandria in the 20s has come straight out of history books. The hotel itself was drawn from a 1920 photograph of the Savoy in Alexandria. One story circulating is that Richard Edwards of Eldritch Games was casting an eye over a couple of screens knocked up by graphics man Pete Lyon, and pointed at a lock on a door. "That'll have to go. They didn't have locks like that then," he said. With that sort of accuracy, this could be some game.



GNOME ALONE

ICE

Dear oh dear, what a terrible title. Still, embarrassing monickers aside, *Gnome Alone* looks like it could be a fairly interesting product. You are a Gnome, and you have been imprisoned in the Garden of Mayhem. All you need to do to get your parole is keep the garden in order, and that involves a lot more than just sitting still with a fishing rod in your hands.

Standing between you and freedom are all sorts of extremely dangerous yet incredibly cute obstacles, such as bees just waiting to sting you, snails that make you cringe with disgust, worms that have to be destroyed before you can mow the lawn and flying fish, that just can't be contained in the pond no matter how you try. *Gnome Alone* looks like the unofficial follow up to Electronic Zoo's *Magic Garden*, but let's hope it's not quite as bad!



CHUCK'S WORLD

FISSION SOFT

New games publisher, Fission Soft, have signed up the artistic talents of Steve Packer, the man responsible for the popular PD slideshows which feature the diminutive Chuck dressed up as various popular icons and involved in some decidedly silly pursuits. After our feature on Steve a couple of issues ago, he was bombarded with offers and decided to sign for the newly-formed Fission Soft, after hearing of their plans for his character.

First game to appear from the Stamford-based publishing house will be *Chuck's World*, a cute platform game featuring the exploits of Steve's round character of the same name. It's the usual story of kidnapped girl held captive in an abandoned castle by a manic wizard. The twist in this particular tale, though, is that our hero is an abject coward. He's too scared to enter the castle, so instead slips into a number of dream worlds. These will include an Alien world where Chuck changes into an alien-slaying soldier, a Bat world where he dons the famous Batscape, Moonworld in which he becomes Flash Gordon and Supergirl where he transforms into a Green Lantern-type character.

Fission Soft's second game, *Peroxide Girl*, is an altogether more bizarre affair. The game begins with an animated intro showing a rather drab looking secretary throwing her handbag to the floor, jumping into its cavernous insides and reappearing as the mysterious Peroxide Girl. With a bouquet that reads that of Man Wilson, it's a real agony time to prevent her impressive hairdo from turning a ghastly shade of brown. To help her in her all-important mission, peroxide test tubes are literally scattered about each level which, when collected, gradually transform her hair back to its bright white brilliance.

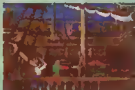
Fission Soft have another three games in the works, all equally as peculiar and zany, and we'll have an extensive In Development as soon as there's more to see. The company is also on the look-out for experienced Amiga programmers, so if you feel



PIRACY

ICE

There have only ever been a couple of pirate role playing games, and as far as I can remember, they've all been rather good - particularly Sid Meier's *Pirates*. ICE are trying their hand at an RPG with *Piracy*, and all this stage it looks: pretty good.

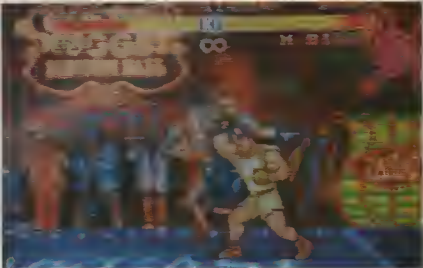


As captain of a pirate vessel, you'll have to navigate the stormy seas just trying to keep the ship afloat while enemy ships attack. If you like, you can board other ships looking for treasure, and where would any pirate game be if it didn't have the proverbial treasure islands dotted about here, there and everywhere? You'd better watch your step, though, or you could end up walking the plank.

Apparently, *Piracy* will introduce terms like 'scurvy', 'grog', 'plunder' and 'pillage' into games players' vocabularies. With any luck, it'll also introduce the phrase 'very playable game' too. Look out for a full review next issue.

IN DEVELOPMENT

Being pretty is cleaning up: out on Ryu. His lack of kicks makes him an easy opponent to beat, especially if you use long-range attacks.



STREET FIGHTER

In the build up to Christmas US Gold have acquired the licence to the hottest coin-op ever. CU Amiga went behind the scenes to see how *Streetfighter 2* is shaping up.

ARCADE HIT

If you're not the kind of person who arms themselves with 20 tips and heads down their local arcade once in a while, the odds are you've never seen *Streetfighter 2*. This beat 'em up from Capcom is without doubt one of the most successful games of all time, spawning several clones, none of which match up to it, loads of merchandise, comic strips and most recently, its own TV series in Japan.

Like most beat 'em ups the objective is simple. There are eight different characters to choose from, and with your selected guide you have to kick the other seven unconscious in best-of-three matches, then defeat four 'super' opponents to be declared the world's greatest streetfighter. While this format has proved limiting before, each character has lots of moves to master and combat requires precise timing which makes the game ferociously addictive.

The team with the monumental task of producing the conversion are Creative Materials, who were responsible for *Final Fight*—another Capcom conversion. The game only managed to rate 90% back in the September '91 issue, but the criticisms were levelled more at

the game design rather than bad programming, citing a lack of moves and originality as the major flaws. Creative Materials are hoping to make amends with *Streetfighter 2* and have brought in Gordon Ford, whose previous projects include *Howling* and *Arena*, to oversee the development of the Amiga version.

One of the biggest problems facing Creative Materials is cramming the game onto an acceptable number of disks. The Super-NES cartridge is a massive 16 Megabits, which is roughly 2 Megabytes, making it one of the largest cartridge games ever. Most of the memory is taken up with the huge amounts of sprite data for each character. When you consider that every combatant is several sprites high and has around 15 moves, plus animations for when they're stunned, hit and knocked senseless, it's easy to see how that much memory is used.

On top of that there are 12 different backgrounds, each two screens long with objects that smash when a character falls onto them, sampled speech and a different tune for every screen. There are also three bonus rounds where a car has to be destroyed (a feature also present in *Final Fight*), a pile of bricks reduced to gibberish and old drums smashed. Fans of the game will notice that the 'bricks' round has replaced the barrel smashing in the coin-op, which is a carry-over from the S-NES version.

ANIMATION OVERLOAD

So far Creative Materials have managed to cram in an average of 223 unique frames of animation for each character, not including flipped sprites, with the total game currently taking up 2.5 meg. How many disks the game comes on depends on how well it compresses. It looks likely to be two or three and it will require at least a megabyte of RAM, as much of the game is downloaded into memory to cut out disk access.

One feature which has had to be dropped is the parallax scrolling on the ground—including it would have led to a drastic slow down. All the speech has made it through though, with sound maestro David Lowe sampling from the S-NES version and reworking the music from scratch. Incidentally, a number of computer stores now stock *Streetfighter 2*—the CD, which is a disk of the game music and sound effects.

MOVIE 'N' ON UP

One of *Streetfighter's* biggest attractions is the sheer number of moves. The coin-op has six buttons, three for soft, medium and hard punches and three for their kick equivalents. When you hit a hard or medium button your character will pull off one of two moves depending on how far away the opponent is, or throw them if they're close up. On top of that there are special moves, which

Zangief's spinning pile-drive is the hardest move to learn.





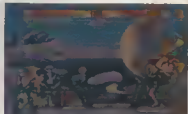
Honda vs Zangief. The duplicate character lessons were prevented in the original CD-ROM as is sampling of a locale in the Amiga.



Vega, the guy with the claws, can climb up the fence in the background and drop onto his foe.



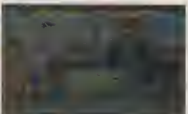
Dhalsim's special attacks include Fireball and a flying head-butt called a Yoga Head-spear.



The backgrounds are less screen long, but the Amiga version will have parallax scrolling.



Ryu executes a dragon punch - the most devastating move in the game.



Blon is the last character, although Vega is a tougher opponent to beat.

STREET FIGHTER 2

require a combination of joystick movements followed by a button press. The trickiest of these is Zangief's spinning pie-drier which is executed by, what else, spinning the stick then hitting punch.

Obviously, with the typical Amiga joystick only having one button, there is no possible way to convert all the moves. Instead you'll be able to either use the punches or kicks on the joystick and toggle between them by either pressing a key or waggling the stick. Some of the slower characters such as Honda and Zangief are automatically set up with fast attacks whenever they'd be murdered by their speedy opponents.

Problems are presented with this system, though. There's a tactic to often an opponent's second time which requires a combination of hard and soft kicks and punches which is impossible with this system, also a certain amount of joystick waggling is called for to recover from a stunning blow or to escape a character who's crushing or chewing you.

The original plan was to include a six-button joystick with the game. Not only would this have given it much more appeal, but it would also have made it pirate proof. Unfortunately this plan had to be abandoned, presumably because of cost, as the cheapest commercially available joystick starts at \$9.99 and they only have three buttons. This dictated lack of buttons could put many of the one-offs fans off, after pumping so

much cash into the machine only to find their devastating techniques unworkable in this version.

PUGILISTIC PAST

The original *Street Fighter* appeared just over five years ago and was nothing more than an average beat 'em up with large graphics. Unless you went to an arcade with the punch button cabinet. This version featured three gigantic hit-sensitive buttons for each player. The strength with which you hit them determined how hard your on-screen character punched. While this was a novel idea, in the time it took to wind up a really good blow your computer opponent, who had no such worries, could slap in and destroy you.

This, and the problems with playability (i.e. it was a bit costly), were rectified in *Street Fighter 2*. Although the game is almost three years old, it's more popular than ever. There are more opponents, more moves, more buttons and more strategy than the original and more skill is called for when dealing with the last four streetfighters. When you hit a character two or three times with heavy blows they become stunned giving you a free attack, and timing blows is essential.

Although there's no official word on *Street Fighter 3*, Capcom have produced *Street Fighter Championship Edition*. In this version the special attacks are even more ferocious, the

last four opponents are selectable and both players can be the same characters. Although you won't be able to play the last four in the Amiga version, the twin character mode is being included which will please fans of the game.

CONSOLE YOURSELF

The first home version of *Street Fighter 2* was on the Super NES. It's currently only available on import, with the official version due out by Christmas. The game is an almost perfect conversion of the coin-op, featuring all the sampled sound effects, tunes, backdrops and characters and, surprisingly considering the machine's processor speed runs at a mere 3.5Mhz, no slow down.

There are now rumours of a SEGA Mega-CD version of SF2, and if it does come around it will be the first major coin-op to CD conversion and could pave the way for future big-name titles on all CD machines. What next? *Street Fighter 2* CDTV?

THE SPECIALS

By far the best special move in the game is Ryu and Ken's dragon punch. This move, executed by pulling the joystick in the direction you're facing, down and down and towards the way you're facing and then hitting punch (phew), has to be executed very close to another character to hit them. It has the added

bonus of rendering them invulnerable for a second, so it can be used defensively as well.

Ken, Guile and Ryu can hurl energy balls across the screen with a simple flick of the stick. The speed it travels at depends on which of the three punch buttons was used to fire it, and this is another area where one button doesn't suffice. A neat tactic is to launch a fast fireball followed by a slow one. This often catches your opponent off guard, but will be impossible in the Amiga version.

One advantage the Amiga version will have is an autofire joystick. Chun Li, Blanka and Honda each have a special move which is activated by repeatedly tapping a button, and an autofire switch will make this even easier.



The object of this bonus round is to destroy the bricks in a set time.

THE (RAIL) ROAD TO RICHES

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MEET THE HEROES

Streetfighter's eight selectable heroes all have different attacks, bar Ken and Ryu, and individual special moves. Characters like Blanka and Chun Li are relatively easy to master and are a good choice if you haven't played the game before. But they do have their limitations, so if you want to consistently beat your mates you're best off using someone like Guile or Ken whose varied moves are harder to learn but are far more damaging.

Each character has their own and sequence, which makes completing the game with different ones worth while, although the slower characters really come unwelluck when they meet the lightning-fast Vega.

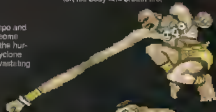


Ryu

A master of Karate and Kenpo, his fearsome attacks include the hurricane punch, cyclone kick and the devastating dragon punch.

Dhalsim

This mysterious contestant uses his yoga abilities to contort his body and breath fire.



Ken

Like Ryu, Ken is a survivor from the first game. He has now moved to America to battle a greater variety of opponents.

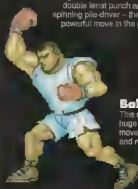
Zangief

Covered in scars he received during a fight with a bear, Zangief's arsenal includes the double fist punch and the spinning pile-driver - the most powerful move in the game.



Honda

The fat boy of the game employs his sumo skills to outsize his opponents. He teases them with his flying torpedo and finishes them off with a hundred hand slaps.



Balrog

This character has no kids, only a huge array of punches. His special moves include the dashing upper-cut and round-house smash.



Vega

Although not the final character, Vega is the toughest in the game. Armed with a set of metal claws and a dazzling array of moves, including the Ichi Drop, where he descends from the ceiling, picks up your character, and dumps them on their head.



Sagat

He was the top guy in the original Streetfighter, but now he's playing second fiddle. He's armed with the Tiger upper-cut, which is similar to Ken and Ryu's Dragon Punch, and Tiger shot.



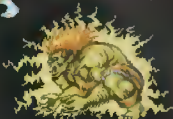
Bison

Equipped with mystical powers, Bison is quick and deadly. He's capable of three-hit moves which stun an opponent in seconds.



Chun Li

The only female participant, Chunnie is fast and capable of performing the spinning bird kick and the hundred foot kick.



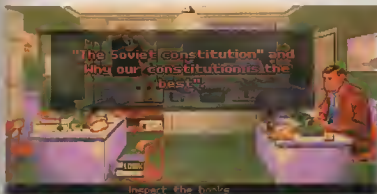
Blanka

Green, mean and capable of electrifying his skin, Blanka also enjoys chewing the head off his unfortunate opponent.

He became a master of combat karate while serving with the US Airforce. He can hurl energy bolts, throw opponents in mid-air and destroy them with his somersault kick.



Guile



KGB

WORK IN PROGRESS

A game based on the exploits of the Soviet ever-so Secret Service? John Mather got the thumb-screws out to get some further information.

NEW GAME French team Cryo are making quite a name for themselves in the original product stakes. First they came out with the wonderfully strange *Dune*, and now *KGB*—an everyday story of corruption and Vodka. You have been moved to Department P of the KGB, and your task is to investigate internal corruption and bring the conspirators to justice.

PLAYING The game is played out over four missions, which of course get progressively harder. It's been in production for the last seventeen months, and at time of writing is looking seriously impressive. Apparently the game idea was suggested by Martin Alger, boss of Virgin USA who bumped into Philippe Urtuch (musicien and ideas man) at the US CES. Mather saw a KGB badge Philippe was wearing, pointed straight at it and said 'There's a good idea for a game'. It all stems from there!

KGB will be played as a graphic adventure, with an intelligent mouse pointer used to do all your actions, such as examining objects and talking to people. Cryo are managing to get a lot in the game, and I mean a lot. So far there are over 50 minutes of music that may be put onto a CD, just like the *Dune* soundtrack. There are over 300 pages of text, 100 different locations and 120 different characters, all of whom can hold conversations.

TALKING POINTS Conversations are, naturally, a very important part of the game. The easiest way to get information out of somebody is to ask them, and if they don't tell you first time, then apply the thumb-screws and ask them again. When you engage in a chat, you are given a list of options—such as 'Talk to them about...' or 'Ask them for...'. Once you have selected the type of thing you want to say, you are given a selection of topics. Once you have been given your answer, you are given a multiple choice of responses to whatever it was the character said. Be careful not to give yourself away!

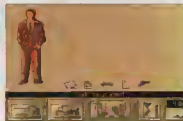
You'll be able to do most things a KGB agent can do, but in these enlightened days of pleasant East/West relations, it's all done completely tongue in cheek. Most of the characters are stereotypical, which makes the game look great fun to play, and there's an option to print out the script while you are playing. Hopefully, should you complete the game, you'll have a novel printed and ready to read. What a great idea!

Other new features include visual surveillance on people, full torture and thumbscrew options, plus a self-mapping section that allows you to move between any two locations by clicking on the map, rather like the system used in Megaloc Scrolls adventures.

CREDITS *KGB* is Cryo's second project for Virgin, and it looks like their best yet. With Exors responsible for the sound, and the familiar French team of Fabrice Bernhard (coder), Michael Rho, Didier Bouchon and Sohar Ty (Graphics) behind it, it really should be something special! The last thing besides *Dune* that this team worked on that I can remember was the fabulous *Captain Blood*. Look out for the full review next month. ☛



The point & click mouse interface is extremely easy to use. The multiple-choice questions and answers flow.



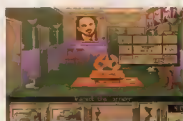
The inventory screen gives details of all that you carry. At first you'll only have a standard issue pistol, but later on...



Each mission is preceded with a briefing where some important information will be given to you. Listen carefully!



A self-mapping function automatically plots the locations you've visited, useful in a game this big.



If at first you don't succeed, try, try again. Events happen chronologically, but not always when you're snooping around.

With Nigel Mansell carrying off the Formula One World Championship, Gremlin must be hoping their new license will do equally as well. Tony Dillon goes for a test drive.

NIGEL MANSSELL



NOT ANOTHER RACING GAME? Gremlin are racing mad. Not only have they released all the Lotus games, *Team Suzuki* and *Supercars*, now they've signed up the fastest moustache in motorcar racing to star in his own computer game. At a recent Gremlin open day, the Sheffield software look the lot of their newest racer to a select bunch of journo's, including yours truly, and things are looking good.

ANOTHER RACE? So why yet another racing game? Aren't there enough of the pesky things already, without adding one more to the fold? It all reminds me of Monty Python's *The Meaning of Life* and the 'Just one more turn, sir' skit. Just how many racing games are the Amiga games buying public going to stomach? Gremlin programmer, Damian Hibbard, takes up the story: 'Nigel Mansell is designed as a cross between *Vroom* and *Formula One Grand Prix*. The kind of person who buys Lotus isn't automatically the sort of person to buy *Grand Prix*, so we're aiming to bring more of an arcade element to the genre.'

Does that mean we're just going to see Lotus with different graphics, then? 'No, not at all. Although the gameplay is arcade-oriented, rather like that of *Vroom*, the game itself is a lot



Nigel Mansell promises to be the most detailed sports racer ever. Check out the other cars!

KEEP FALLING ON MY HEAD Nigel Mansell's *World Championship* has been in production since early February, and looks set to be completed roundabout the end of September. What other features can we look forward to? 'Dynamic weather, for one. Occasionally the sky will darken, to create an overcast effect, and then the rain will pour down, lightly at first and then getting progressively heavier.' One thing that looks as if it perfect was to have a car in a tunnel and be able to see it raining outside, but we've done it.

This is Damian's first project for Gremlin. What has he found to be the biggest obstacle so far? 'Basically just sorting out how to do what I wanted to do in the shortest possible time. I wasted a lot of time on stuff which was subsequently scrapped, but it's all running much smoother now.'



A brief pitstop for just one of the highways. Necessary in this game, especially with the unpredictable weather.



Racing from the starting grid. Your position isn't too good, and you can be certain that the other cars aren't going to let you through.



You're cutting a good racing line. In any other game you'd fly past computer players, but here they all drive as well as you.

TYRE OUT Years ago, a revolutionary racing game called *Pitstop 2* was released. A big-standard racer by today's standards, it was way ahead of its time, and heralded in a new era of racing car games. Gremlin are making the same kind of claims concerning *Nigel Mansell*, but we'll just have to wait and see if they can live up to such wild boasts.

more detailed. You race in a league of 16 other drivers, all of whom drive intelligently. You know the sort of thing, take proper racing lines through corners, brake on sharp bends. I'll be decidedly unlike other games of the genre where you have to take most corners at a snail's pace and watch the opposition speed past. The supposed intelligence of the opposition is something Damian also feels the need to stress. The other cars in the game all drive competitively. They overtake aggressively, as well as trying to block you in should you try to overtake them. I'm also setting it up so that they will have to enter the pits as and when the racing conditions dictate.

Damien is also working on a 'driving school' section, which will allow the player to race around any of the 16 tracks in increasingly more powerful cars. Eventually you'll be let loose in a turbo-charged Formula One racing car and from there you'll progress to the actual races themselves.

Completing the threesome behind the project are Damon Godley on graphics and regular series expert Patrick O'Shea. All systems are ready to go, and the game should hit the shelves in time for November. We'll have a review as soon as we can get our racing gloves on.

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BAD NEWS FOR HEDGEHOGS



ZOO L

A Gremlin, 1992 Gremlin Graphics Software Ltd. Trademarked name.

From the darkest corner of the Nth dimension, comes the hippest cosmo dweller ever to take centre screen. ZOO L-Ntnjs atten and righteous dude is on his way. Hedgehogs beware!

“ Gremlin have produced a masterpiece. ”
Amiga action 36%

“ Fast, action-packed, challenging and highly addictive ”
The Sun

COMING SOON ON.

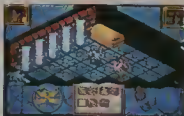
AMIGA (1 MEG ONLY) AND ATARI ST



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Gremlin's first stab at the *Hero Quest* license sold in vast quantities. Steve Lyons travelled to



HEROQUEST 2

THE LEGEND of SORASIL



their Sheffield HQ to get a sneak preview of how the much-awaited sequel is coming along.



CARDBOARD CUT-OUTS

Hero Quest represented Gremlin's first step into boardgame licensing. Although the game sold by the ton, it suffered from a number of rough edges and it is these that Gremlin have set out to refine. Not wanting to waste a good licence, designer Paul Green, ex-*Games Workshop*, has returned to the drawing board and come up with *The Legend Of Sorasil* – an arcade adventure that looks set to knock the likes of *Shadowlands* into a cocked hat.

ASK A SILLY QUESTION...

To get an idea of what people might want to see implemented in the new game, Gremlin sent out a bundle of questionnaires to registered users. The response was strong, and consequently *Hero Quest 2* has become Gremlin's most expansive project yet, with just the production notes being spread over hundreds of pages.

I really enjoyed *Hero Quest*, so naturally I was interested to find out what improvements would be made to the sequel. The general consensus was that the combat system was rubbish, says carder Kevin Dudley, previously responsible for *The Shoe People* and the intro sequence on *Space Crusade*. 'To most people, it just looked like a couple of wobbling characters, so we've done a lot of work on the battle

graphics. Essentially, there's a lot more animation in the game, with background animations and smoother sprites. Just to make it look nice Matt Furniss has worked really hard to give the game a completely new look.'

Something else that should please a lot of people is the fact that the landscape now scrolls instead of flips, eliminating the previous problem of being unable to move onto the next

screen due to a character standing right on the edge of where you want to go.

FLOWING

This time the game will have a lot more to it in the first one, you had a lot of little tasks, all sort of connected, but there was no real storyline. In the sequel you'll get a huge adventure to work

through, split over three sections with ten stages in all. A plague has been placed over the land, so you first have to rid the area of the plague, find out who did it and why, and then destroy the culprit. It's a massive game, so I don't think we'll have as many people phoning us right after release and telling us it's too easy.'

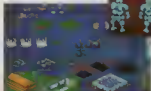
How else are Paul, Kevin, Matt and Patrick Olsen going to make sure that people who already have *Hero Quest* will want to buy *Legend Of Sorasil*? 'We've added four more chaotic levels to the original four, and they all have specific abilities and strengths. Also, we've

dropped the idea of the spinning coin. This time, you'll have 20 points each turn, and it's up to you how you ration them. Moving one square typically uses 1 point, but searching a room could use 10, so there's definitely more strategy in the new game.'

The game is currently going through its final stages of production and, with a strong prevailing wind, should be released this side of Christmas. ■



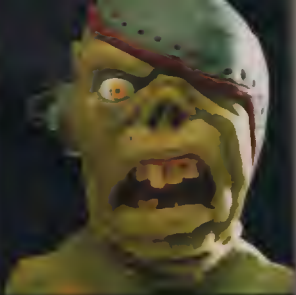
Always: Just some of the new creatures you can fight in *Hero Quest 2*. One thing Gremlin are pleased about is the amount of animation this new project contains. As well as full battle scenes, the backdrop is also animated, with changing tiles left and moving walls.



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A SERIOUS EXPERIENCE

The Bitmaps have been rather quiet of late. But now they're back. At the recent ECTS show, their new game was causing quite a stir. Tony Dillon takes a look at their latest and greatest.

THE CHAOS ENGINE

WORK IN PROGRESS



A Bitmap game wouldn't be the same without some glorious graphics. Here are the Chaos horrors butchering a robotic dinosaur.



Although the game is top-down, there are up to four elevations to find your way around.

ABSOLUTE CHAOS

The Chaos Engine is a machine that was pieced on Earth in Victorian times to bring terror and disaster. It also happens to be the name of an exciting new product from the Bitmap Brothers, coders behind *Xenon 2*, *Gods*, *Magic Pockets* and *Speedball 2* to name a few. The Chaos Engine should be something really special, especially when you consider that it's been in production for two years.

"I guess you could say that The Chaos Engine has been heavily

inspired by *Gunfief*, says Bitmap main man Eric Matthews in their East London office. "To our mind, there has never been a game that has completely captured the essence of it, so that's partly what we're trying to do. You know, the atmosphere generated as you race around a maze, all trying to find the exit while helping each other blast away masses of nasties."

No one can say that they're doing a bad job of it, if what they have completed so far is anything to go by. It can best be described as an arcade blaster with a few puzzle elements, but there is a hell of a lot more to it than that. You and a friend are combat heroes, dedicated to destroying the Chaos Engine. Before you can do so, you have to wage bloody war over dozens of levels, destroying everything in sight.

But hang on, doesn't the sound just like every other eight-way scrolling blaster? What makes it all so special? The one thing that took the most time was working out all the intelligence routines. All of the bad guys have minds of their own and each has a different purpose. Some are placed to guard particular items, whereas others simply home in on you.

TWO PLAYER MODE

The biggest task was getting the computer player to react in the right way. The game has been designed for two player blasting, and if you don't have a friend to play with, then the computer steps in. However, we

didn't want the typical computer player, who always aims perfectly and follows rigidly defined routes. We wanted this player to act in exactly the same way as a human, so that you feel like you're playing with another person.

"One feel we did was to set someone up playing a one-player game in a room by themselves, and then we brought people in to watch. Most couldn't tell which of the characters the person was controlling. I think that says a lot."

That's not all. Other new elements include a fair scoring system. "How many times," asks Eric, "have you played a game like *Gunfief* with someone else, only to have to fight

everyone yourself while the other person steps in and steals all the bonuses?" If it's true, most people do follow that strategy, but it won't work in Chaos. At the end of each level, the computer looks at how much carnage you caused, and how much of the actual level solving you did and then divides the score accordingly. If you do most of the blasting, then you get most of the cash.

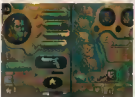
The Chaos Engine is being coded by the familiar team of Steve Cargill, Dan Malone, Simon Knight, Eric Matthews and Richard Joseph. As usual, music is provided by a Rhythm King artiste. In this case, dance band Jai. The Chaos Engine will be released in November priced £5.99. We'll have a review soon.



The Chaos Engine is full of twists, with enough explosions to satisfy all.



After each level, all treasure and bonus points are divided according to how much work each player does.



With extra cash, you can increase the sophistication of the players, but it doesn't come cheap.





Swim through the heavy castle shape, Pond attempts a waterbust.

NOT THE PLAI(CE

Cod almighty, just what is the world coming to? First of all we experience a marked revival in the old Decathlon-style game, and then someone goes and throws a fish into the works! Is this the time or, indeed, the plai(ce for such escapades? No, not really. Because, brave as this unusual marriage of themes is, *Aquatics* is a tired and very shallow (no pun intended) variant on the sports game theme, and no number of fish-related jokes are going to save it. To be fair the actual idea is rather a good one. After all, the James Pond character has proved his flexibility in a way neither Mario nor Sonic have achieved, by star-

ring in an arcade/adventure and a console-style platformer, so why shouldn't he be adapted to appear in a sports game? There's no real reason why not, but *Aquatics* is hardly going to enhance the fishy agent's popularity or bridge the gap until Millennium's forthcoming James Pond II: Splash Gordon.

As the game unveils its many options, the ever-present menne humour instantly comes to the fore. Taking a break from his exploits as a FISH agent, Pond and his mates have started up a smaller version of the Olympics which consists of eight main events and two smaller sub-games. Thus, armed with a sturdy joystick and wrist muscles which would make Popeye weep, you step up to the starting line for the first of the events. There are several play modes available to the player, which include the ability to practice the events in any one of three difficulty modes, or play against up to three opponents. Once you have made your decision, you are assigned a trainer (amongst whom are Steve Clem, Billy The Squid, and Mickey

O'Shell) and the first of the events is loaded.

PRAWN FREE

To ease you into the proceedings, the first event is your run-of-the-mill 'waggle-the-stick-to-run-fast' affair. As soon as the starting signal is given, you must assume the normal wiggling position and give it all you've got so that your

onscreen Sebastian Roe (I'm getting into the fish speak) pegs it to the finishing line in winning time. Just to add a little extra to the familiar mix, water must also be sped across (Messiah-style) until you pass the post. Depending on your time, the medal will then be handed out and it's on to a bout of Kipper Wrestling. Contrary to the event's name, this does not in fact



The 100m swim... scary, isn't it, simply a matter of keeping the joystick until Pund reaches the finishing post.

AQUATICS

Who cod believe it?

Millennium's fishy agent is entering the sports arena. Will there be a motorbike and sidecarp section, and will Millennium be squids in? Steve Merrett beams a happy smile and joins James Pond on the beach...



The events can be played by up to four players, all of whom are chasing those elusive winners medals. Shown above is the 100m swim section where the starfish 4 medals must be saved from the evil anglers.

involve watching a smelly yellow fish, but sees one Cecealia Seal protecting her islands from a rather nasty torrent of beach balls. As the inflatable spheres come raining down, Cecealia must leg it left and right, deflecting the balls with her nose. It, however, two of her friends are swoken by missed balls, then it's game over.

This is where one of *Aquaticus*' more annoying points crops up. With the events split between waging and skill-based ideas, the difference in time between levels is massive. Thus, whilst the running and jumping sections are over in a matter of seconds, up to tens of minutes of Seal-saving action swell you – and as much fun as the Seal section initially is, after a while the novelty soon wears off. Another major problem is that the much-needed variety that sports games need is also missing. For instance, later on in the game, there is a section where a fisher must stop his friends from succumbing to the fishermen offering them sweets. Despite the change of graphics and slightly different slant to the gameplay, this is virtually identical to the Seal section and is inexcusable in a game that is already limited to eight sections.

MUSSELLING IN

Other ideas in the game include a triple jump variant, a cycling scene and a particularly tedious bounty castle stage where James must perform a set number of special moves within a predetermined time-limit. Tedious is not the word for this stage and bouncing between two treppelles whilst effecting a selection of moves proves about as much fun as eating sea wax. It's a real pity that what appears to be a lack of ideas has let *Aquaticus* down as some of the events can indeed prove rather fun. However, it is worth noting that it is the more skill-orientated stages, such as the triple jump and 'Leap Frog' hurdling events that prove enjoyable. Even these soon prove lifeless, though. Admittedly there are two bonus games thrown in for good measure, but even these don't add meat to an already atrophied skeleton.

I really wanted to like *Aquaticus* as Robbood ranks as one of the best platformers I've played. Sadly, though, this underclass exercise program just doesn't cut the mustard and sadly wastes the character's potential. Let's hope Pond's next outing offers more sustained gameplay, rather than a mad collection of poorly thought-out sporting events. If he had an overriding motif in Robbood, why not make it flexible and add some sort of Pole Vault-style event? I'm going to clam up now, but *Aquaticus* can sadly be summed up in a similar vein to its seaside setting: Wet. ☹



Keeping the seals safe involves protecting them from deadly beach balls.



The sailboat in *Aquaticus* is superb and undoubtedly a lot of care and attention to detail has been invested in the various characters that populate the game.



The triple jump is a simple but skillful event which requires both perfect timing and skill.



Unicycling uses a central system similar to the cycling event in *UB Gold* & *Summer Games II*.



BAK TO THE FUTURE

Placed alongside such coding veterans as Andrew Braybrook and Tony Crowther, Steve Bak is still relatively unknown. However, when you consider that Steve has broken down more than a few barriers in his time, this is almost unforgivable. For instance, starting with the humble *Dragon 32*, Steve virtually kept the ill-fated machine alive with his series of *Curbside* games. These were basically conversions of such coin-ops as *Defender* and *Space Panic*, but with the titular Cuthbert assuming the starring role. However, for a small army of Dragon owners, they were a lifeline. Logically enough with the advent of the 16-bit ST, Steve then proved rather wrong by getting the machine to scroll vertically. After much hoo-hah from numerous devotees saying it was impossible, Steve produced *Goldrunner*, a limited but very fast vertically-scrolling blast which then left the cynic to moan that nobody could do the game with a horizontally-scrolling game on the ST. Oops. Along came Steve again, this time with *Return To Genesis* for Firebird, to prove them wrong. After a few lesser known titles (*Leamsteads* and *Duke Of Wex*), Steve then embarked on the *James Pond* game for Millennium, teaming up with his (now) long-term partner of Chris Samill. However, *Aquaticus* is a purely Steve Bak game, as Chris is currently busy on the fourth *Pond* game, whilst even our hero has laughed into upsize.

buyers guide

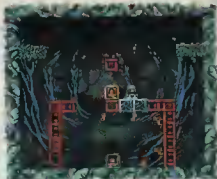
release date	Oct. new
genre	sports
name	Steve Bak
controls	joystick
number of disks	1
number of players	1-4
hard disk installable	No
memory	Any Amiga

MILLENNIUM £25.00

An excellent idea, but the actual game is a bore.

GRAPHICS	83%
SOUND	82%
LASTABILITY	65%
PLAYABILITY	71%

OVERALL 67%



It doesn't take 6 genius to figure out how to solve this level. Later on, however, things will get much, much harder. You have been warned.



If getting the Troddlers to the exit isn't difficult enough, how about the added challenge of keeping them off ice blocks and out of mines?

They may look like Lemmings, but the game certainly isn't. Jessica Gedge is puzzled.

TRODDERS

MESSING ABOUT

Hokins and Pokus are a couple of mischievous fellows. Working for a very lazy, but highly intolerant wizard, they do nothing but skive and get up to all kinds of mischief. One day, the wizard decides he has had enough and sends them down to the cellar to tidy up — a job that should take them a couple of days. While down there, they come across a box marked 'Dangerous'. It transpires that the box contains Troddlers, small creatures dedicated to helping people do their job.

HAPPY SLAVES

Mind-numbingly stupid, with no sense of self-worth or preservation, they are completely harmless unless they should happen to be teleported. If that happens, there's a strong chance that they could become Zombies — nasty Troddlers hell bent on destroying nice Troddlers and humans alike. I wonder if you can work out what happens now? Yes, they all get out of the box and teleport, and so it's up to you to get as many of them back as possible. Who said computer game storylines had predictable endings?

Hang on, you might be saying at

this point. That description of the two little creatures makes them sound just like Lemmings! You're not wrong. These little beings are small, cute and trundle around, forever just walking forward regardless of anything that might be in their way. Thankfully, though, they can't fall from heights. Troddlers have little sensors on their feet, which means that they have no problem at all walking up walls or along ceilings.

There are three different ways to play Troddlers. Firstly, there's the solo mode, where you go on twelve and face the game on your own. Then, there's team mode where you and a friend guide the little fellows home. Finally, and definitely the most fun, is war mode, where you and a pal fight it out as one of you guides the Zombies and one of the Troddlers.

MAGICAL LEGO

Unlike Lemmings, and the number of clones that are poised to appear over the coming months, the Troddlers themselves have no powers whatso-

ever. Indeed the only trick you can perform over the entire 175 levels as you guide your minis from entrance to exit, is that of creating small blocks of granite. Provided you have the magic for it, you can create blocks at will, and place them in any clear space immediately around you. By carefully placing the blocks in the right places, the Troddlers will walk around any hazards and (hopefully) off to the next screen.

Having just one weapon in your arsenal doesn't sound much cop, especially when you consider what's being thrown against you. Miners toss Troddlers from limb complete from limb complete with a little scream and a splash of blood, cannons blow them away and, of course, Zombies do their best to decapitate the little minis whenever possible. On top of that, you're against the clock all the way, and if you should fail to meet the pass requirements for the next level, you have to try all over again.

Troddlers is a lot of fun to play. It's a very unusual game and it'll take a while to suss out some of the strate-

gies needed. To my mind, the ultimate test of a game is to start playing it late at night and not be able to let go, I've been up for 24 hours playing this one, so I guess it's passed the test.

buyers guide

release date	October 92
genre	Platform Puzzle
team	in-house
controls	joystick
numbers of disks	1
number of players	1/2
hard disk installable	No
summary	All machines

STORM £25.99

A very addictive and enjoyable puzzler...

GRAPHICS	81%
SOUND	75%
LASTABILITY	82%
PLAYABILITY	84%

OVERALL 83%

HUMANS



By stacking humans on top of each other, you can reach higher platforms with ease. To begin with, this is one of the only things you are capable of doing. Have Mirage found the missing link? Was it a slip leader?



By throwing the spear across the gap, our missing link has placed it in a more convenient location for his chute.



Mirage's latest puzzler is set in the stone age. Tony Dillon discovers that he looks rather good in a loin cloth. (The very thought...)

SOUNDS FAMILIAR

Humans is a game in which you control a lot of small, unintelligent, but undeniably cute, characters around platform-dominated levels with the aim of getting them to the exit before the clock runs out. Yes, it's another game that (very) loosely falls into the "It's-a-bit-like *Lemmings*-really-isn't-it?" category.

THE DAWN OF TIME

These are no ordinary humans however. This is prehistoric man, the first animal ever to discover personal modesty before life. You are in charge of a tribe of these barbaric

warriors as they wander aimlessly through eighty of the most taxing levels I've ever encountered in a puzzle game. To begin with, you only have eight men to control, but as the game progresses, you can gather more by rescuing them from traps and other predicaments. But what exactly do you have to do?

The game is split over six different types of terrain: Caves, Summer, Winter, Desert, Forest and Marsh. The aim of each level is one of three things. You'll either have to get one human to the exit, discover a particular object such as a spear or fire, or rescue a prisoner. Each of the levels is a huge scrolling affair riddled with platforms, and you begin each one with only enough men to solve the puzzle involved.

CAN'T DO MUCH

Each human begins with only two abilities: Picking up objects is an obvious one, but the other allows you to stack men on top of each other. This is the only way to reach higher platforms and the more men you use, the more unstable the tower of bodies becomes. As you

discover the various objects within the game, the humans become more proficient. For example, picking up a spear adds three new skills to a player. He can throw it to other humans, he can use it as a weapon or he can pole vault with it, allowing him to cross gaps between platforms.

SIMPLE CONTROLS

The control system is simple enough. The joystick controls all the walking about, and pushing up automatically puts the current man into a stacking position. On the keyboard, the function keys transfer control over the humans on screen, and the space bar and return keys are used, respectively, to cycle through the menu options at the bottom of the screen and to select an option. Only the available options are shown, thankfully, so you don't have to trudge through a lot of needless icons. There are only three things that can kill you: dinosaurs will most certainly eat you sooner than blink, and falling too far smashes you to a pulp. Finally, the evolutionary clock hurrying you along each level, is enough to wipe out your entire tribe in one ill-swoop.

Humans is a hell of a lot of fun to play, even if most of the levels require repeated endeavors to crack them. With each level made up of a number of screens, it is never immediately apparent what you are supposed to do or where

you are supposed to go. Because of its similarities with *Lemmings*, the game will probably be shopped off by a number of magazines, but it's being incredibly short-sighted as the gameplay is decidedly different and very challenging. The incidental humour and brilliant animation only add to what is already an above average game, and I heartily recommend *Humans* to anyone who enjoys a challenge.

buyers guide

release date	September 82
genre	Platform Puzzler
name	Imagitec
controls	Joystick, Keyboard
number of disks	3
number of players	1
hard disk installable	Yes
warranty	All Amigo

MIRAGE £25.99

A heady mix of platform antics and strategic thinking

GRAPHICS	86%
SOUND	84%
LASTABILITY	89%
PLAYABILITY	88%

OVERALL 84%

Bonus Animations

If you're lucky enough to have a Mega, and not a Mega II, then you'll be introduced to the animations that pop up between scenes. (Only - usually after you've discovered a particular item. First you'll be greeted with a newspaper headline celebrating your deed, followed by Mirage's congratulatory of how it all has passed. I won't repeat it to you, but the dinosaurs who discovered fire and the mammoth what I tested this had me laughing for ages.

Interstellar intrigue and cosmic conundrums are only part of the problem in the super-charged follow up to the original Bat. Mark Patterson gets clued up.

BAT 2



Choose the skills you think will be necessary to complete the mission. These might include weapon handling and perception - choose carefully as you could come unstuck later on.



The traffic police will pull you over if you're seen speeding along the motorway, so it's best to exercise a bit of caution rather than putting your foot in the pedal.

BATTER UP

The Bureau of Astral Troubleshooters (BAT) is a kind of interstellar CIA, whose role is to safeguard the security of the Confederation of Galaxies by whatever means possible. Naturally this involves a few deaths, the occasional bit of espionage and a company credit card for their agents. As one of their men you've been assigned to track down a group of technicians and free up the galactic economy which is suffering at the

hands of the Koshan Corporation. Before you begin the game proper you have to define your character. A number of statistics such as strength, reflexes and perception go into his or her make-up. Each attribute can be increased beyond its preset limit, but doing so will reduce another category. When the physical aspects have been sorted, your agent has to be trained. You have eight weeks before embarking on your quiet and seven skills to learn, such as weapons and survival. Although you

can spend more time learning specific skills and neglecting others, it pays to have the best mix possible as you never know what's around the next corner...

The game starts in Roma 2, the capital city of the planet Shiedahan. You've been sent in to support special agent Sylvia Haddock on a mission to break The Koshan

Corporation's monopoly of the mineral Echistone 21. You start off at the space port with no equipment, no money and no idea where your rendezvous point, the hotel, is.

When you do track Sylvia down she gives you a credit card and a few useful documents. She then goes into more detail about your mission, which is to acquire shares in the Echistone production plants through underhand dealings with corporations and civic figures.

CROSTOWN TRAFFIC

You're not alone, though, as throughout the game characters can be recruited to help you in your mission. Once someone has decided to help you it pays to give them a video phone - that way you can keep tabs on them and they can contact you as soon as they come across any information.

Travelling around Roma is an expensive business. The cheapest way is to take the Via, a futuristic land car. You can pay 300 credits (plus a fine if you crash) to drive it yourself or 400 credits to have a computer pilot. This is all very well, but you can only access the lowers which house corporations from the air. For this you need to use the trusted sky taxi service. Like taxis all over the galaxy, they cost a fortune, but are an essential part of the game.

POINT 'N' CLICK

The game is entirely mouse controlled. The pointer changes when it moves over an object or area your character can interact with. For instance, when you move it onto a door it changes to an arrow, or to a talking head when moved onto another character.

It's almost impossible to miss a key object or location with the system, as you can find out everything contained there by simply moving the

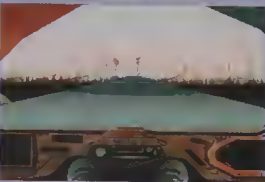


BOR can be used to enhance your character's skills or, if you're a technophobe, it can size double up as a flesh digital watch.



The cityscape is reminiscent of both Blade Runner and the mega cities of Judge Dredd.

BAT has a number of 3D stages where you get to fly or drive a futuristic vehicle of some description. At game stage you'll have to get behind the wheel, as parts of the game are inaccessible on foot.



The city is covered in an intricate network of motorways and this is the sheepest form of transport. However, it limits you to how much of the city you can capture.

UBI SOFT £34.99

Intriguing RPG with plenty of action...

GRAPHICS	87%
SOUND	83%
LASTABILITY	84%
PLAYABILITY	82%

OVERALL 84%

B.O.B. ROBERTS

The one piece of equipment that you start the game with is your old-fashioned Organic Computer, or **DOC** for short. This device is an ultra-sophisticated computer which is built into the arm of your agent, and monitors your physical condition as well as gauging you up after combat. One of its most useful features is its ability to accept implants which increases your agent's abilities, allowing him to go without sleep, heal faster, let him see at night or even change the way he looks.

BOD can also be programmed to react to certain conditions. For instance if you're out doing as well in a fight it will automatically activate the healing implant, it can even be used as an alarm clock.

INFORMERS' GUIDE

release date	November 1992
genre	RPG
team	In-house
characters	masses
number of disks	5
number of players	1
hard disk installable	no
memory	Any Machine



pointers around. Objects are used automatically when needed, but if you don't have the required item the cursor turns into a question mark.

The programmers have described the architecture of Rome 2 as 'High-tech paradox', whatever that means. What it looks like is the Blade Runner sets on a midsummer's day - potentially sinister if it wasn't so bright. The graphics are displayed with a system called Dynaframe, which shows the locations in comic book-style panels. When you move onto a new screen your previous two locations are also displayed, which is a little confusing at times. I would have preferred one large display instead of three small ones.

CHAT BACK

Conversing with other characters is the key to advancing in BAT. When you click the pointer on a person the communication window appears, displaying a list of topics you can ask about. When they reply, key words will be shown in red and clicking on these provides further info. Most characters say the same thing though, and this is where I encountered my first problem with the game.

I had been told to seek out the AIC building, but when I made an enquiry about it I was told I needed the AIC card. When I asked about the AIC card I was told to find the AIC building. Eventually I gave up and found it by luck. Unfortunately, luck doesn't

make for good game, and there are several instances in the first part of BAT 2 where I had to stumble blind through Rome 2 hoping that I was going the right way.

You can only ask people about things you know already. So if you discover a new corporation their name will be added to your list of potential questions.

Of course, probing around these giant corporations does attract interest and sooner or later you're going to end up in a fight. There are weapon restrictions in Rome, but providing you don't go flashing guns about, you can normally carry your blaster without drawing any attention. Combat can be played in one of two modes: action, where you pot-shot your foes, or strategy. The latter of the two is best employed when there are several people in your party, as you can see what chance the individual members have of scoring hits plus how many hits they've taken.

The first section ends with you being wrongly arrested for murder. In order to get back into the galaxy saving business you have to enter a Roman-style arena, where you fight other future gladiators to try and win your freedom. Survive that and you journey into space where you have to solve the final part of the mystery and bring stability back to the galactic economy.

DONGLE DELL

BAT 2 is a gigantic game, which is reflected in its five (count 'em) disks. The manual has to be read before you load the first disk, and even then you'll still need to play some throw away game just to get used to combat and the controls.

Ubisoft have opted for dongle protection similar to that used in Dynablasters and Ocean's Robocop 3. The dongle plugs into the back of your Amiga and only then will the game load. Apparently they only cost 60pence to manufacture, so why the game costs a whopping £34.99 is beyond me!

If you're a fan of the original BAT you'll probably love this, otherwise be prepared to put aside plenty of time to get into what is hugely involving game. The rewards are almost certainly there, it is just finding them that proves difficult. ☹

VIDEO NASTIES

BAT features several sub-games which aren't integral to the plot, but are fun to play anyway. There's an arcade which has versions of Chinese Checkers and Breakout, as well as an original game called Tabular.

There are also a number of simulation sections where you pilot spacecraft, cars and airplanes. These are good fun and are a nice diversion from the sometimes heavy-going main game, and can't be avoided, so you'd better be a dual-headed steering with the mouse, or saving the game out as a regular basis.

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John McGrane has always been a funny-shaped bloke, but he really cannot compare to the stretchable star of System 3's latest blockbuster game.

PUTTY



Putty heaving up the tower, and things are getting really tough. Thankfully there are ladders on legs just waiting to be absorbed for energy.



He looks worried. It's true. Putty. There's a Terminator carrot about to open fire, but not before shattering 'Unit 9 Centimeter' at the top of his little voice.

Mention the name System 3 and the average gamer/player will automatically think of their Ninja series of strategic arcade adventures. Lately, the Hammer-based company has been trying to distance itself from the Ninja reputation with an avalanche of different gaming styles. First then was the platform antics of *Fuzzball*, then the hack'n/slash going-on in *Myth*, and now *Putty*.

GOING ARCADEY

The story goes something like this: You are Putty, a small globular chap composed almost completely of putty. You know, the funny little brown substance that you used to put around the glass in your window panes to keep the difference between a hole in the wall and a window constant. Rather like Zaphod Beeblebrox's revelation that two penguins live a life of their own on a broad planet somewhere in the Horsehead Nebula, System 3 believes that all putty comes from a place known as Putty Moon, circling somewhere in their unstable imaginations.

Anyway, Putty Moon has been taken over by an evil wizard called Dazzledaze, and as one of the small blobs who weren't entirely happy with this situation, you were banished from the planet. Naturally, you don't want to stay in this predicament, but

how can you return without a rocket? Just ask a passing bunch of friendly robots to build a skyscraper high enough to allow you to reach Putty Moon. Of course, Dazzledaze doesn't want you to come back, so has sent everything he's got to slow you down or stop you completely. That's only to be expected, but the other problem is one of your own making. The robots are all solar-powered, but you can only operate at night. By day, the robots are a friendly enough bunch, joking, laughing, building and slipping each other's backs occasionally, but at night they become mindless and suicidal and so have to be watched all the time. What's a poor Putty to do?

CAN DO A LOT

You'll just have to get by with Putty's rather extraordinary capabilities. I have to say, if there's one thing the console invasion has done for Amiga games, it's the introduction of very versatile characters. Putty, like the toy of similar name, can do a hell of a

lot of things considering he's just a small blob of goopy stuff. He has many different ways of moving about, for example. He can walk along platforms, with two little bumps sticking out below him in place of feet. He can leap too, then springing up into the air. But that isn't all.

Possibly Putty's biggest trick is his ability to stretch himself over vast distances until he finds another platform, at which point he sniffs the rest of his being after him, basically transporting himself to his new location. This trick, once mastered, allows him to reach all over the screen in virtually no time at all.

But, you might be asking, what can he do to defend himself? In this respect he can rise one of four different tactics. He can either pinch to the left or right, forming a small part of his side into a fist and then jabbing anything within range. Or, with moist enemies, he can absorb them, extracting the life energy for himself. This is done by getting in front of

them and then spreading out flat on the floor until they walk on him, at which point he sucks them in. Another trick (and this he can only do with limited enemy creatures) is 'Puttymorphing'. When he has absorbed a creature, a double slab on the fire button changes him into the shape of the aforementioned victim, complete with attacking capabilities. For example, in *Toyworld* a clockwork orange marches up and down spitting pips. Once Putty absorbs this and polymorphs into it, he can spit pipe at other enemies. Smart eh?

Finally, for a really big bang, Putty can turn himself into a smart bomb to take out all the opposition on screen at once. Wagging the joystick furiously causes Putty to expand to super-Putty proportions before blowing up, wiping out everything else.

PLIABILITY

None of this can be done without energy, and Putty needs a lot of this. In the form of *Pliability* to be able to do anything besides leap. As he performs all his little functions, his *Pliability* meter slowly drops, but this can then be replenished by absorbing passing creatures as well as bonus food and energy tokens.

The game is played over six levels, starting on the ground and



One of the game's more menacing enemies - an Acid pig on a space heater.



A shot that allows Putty a incredible stretching ability. Who do you know who could move a gap like that?

Putty prepares to land on a Liverpoolian sewage. Failure to land correctly means you have to listen to him ranting you endlessly.



Two things to watch out for here. The lightning is charged and will also trouble Putty should he stray too near. Also, touching the joystick releases the space invaders. You were warned.

On the early levels, the robots are hard to steer as you don't need to worry about them doing Lemming-like leaps over large holes. That all changes later.



At the top of the screen, an electric worm charges the lightning. If you puttymorph into a worm, you can overcharge the bolts and destroy them in one swoop.



The megabots on the platform turn robots into rabbits. Certain creatures eat robots. You have to try and kill the robot-eating thing. Finding out how is the charm of this level.

working upwards to the tallest building on Putty Moon, where Putty can make the most important leap of his life. Each of the six levels is played over four stages, and each stage can be up to four screens high. The format of each screen is essentially the same, although the strategy develops as the game goes on. Robots appear all over the level, and you have to collect them, one at a time, and drop them off at a spastic point until a preset total has been matched. All the start of the game, everything is pretty easy. The first level actually contains a trainer mode, complete with arrows and instructions written on the wall to help you become accustomed to Putty's powers, and to teach you some basic strategies for getting around the vertically scrolling screens.

As you go through the early stages, it's a simple case of bouncing around the levels, evading the enemy and getting the robots home. However, as you continue through the game, your strategies need to be developed as the gameplay takes on some unexpected twists: such as enemies that home in on you for example, or platforms that only move when you're not on them. Just because you can walk through the early levels without blinking doesn't automatically mean that you'll get

through the later stages just as easily.

The range of enemies is quite astounding, and some are quite disgusting. From the lemming-like carrots, who scream 'Uzz uss centimetres' before trying to blast you out of the sky, to the icy soldiers who march up and down bellowing out 'Achlung!' before clobbering you, there are some really bizarre sprites to

encounter. There is even a guy in a bath who fires deadly bubbles at noxious gas in your direction, but not before letting you know exactly where the gas comes from by making a revolting gurgling sound in the bathroom. Almost every single character has some aspect to them that'll make you laugh. God knows how they got hell the samples in the game and, come to think of it, I really don't

want to know either. These guys are sick!

UNCLE TED

There are a range of bonuses to collect, too, most of which are hidden in various parts of the scenery. It's down to you to discover how to find them. Naturally, there are all the standard options, such as bonus points, bonus energy, extra life and invincibility. Where would a game be without them, but there is one special bonus that reduced me to hysterics. Picking up this capsule releases the most foul demo ever seen in a computer game, a horror so unspeakable that the slightest sound of the poisonous magical tune he plays is enough to turn any creature into a whirling, dancing dervish, incapable to react in any way other than to jig like the children of Hamlet. This maniacally is a pub-priest by the name of Uncle Ted - Children's performer and club cabaret star extraordinaire. Ted sits there, behind his upgill piano, and bashes out a 'Roll Out The Barrel' style anthem which renders everything helpless. What a guy!

After Myth, System 3 had to come up with something completely amazing graphically and audibly as to out move backwards. They couldn't have



The arrow on the black means that you can use it to jump higher. There are dozens of things like this scattered about each level, all designed to help you in your quest.

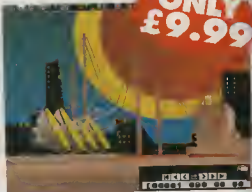
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ADDRESS

POSTCODE



The little guys with the cameras can be absorbed and used in a Puttyyooahh. This little trick lets you become one of them and use your own special launchers against the Chinese Obots.



Putty takes on a clock work orange at its own game. This shot was taken immediately after a Puttyyooahh and shows just how useful it is. Watch out for the German toy soldier, though.



What's this? A fat assassin who can't walk further than a couple of steps with out running out of breath and a chicken that lays exploding eggs. Only Putty goes to this level of weirdness!



Further on in Toyland, and you've entered the land of the trains! See the little guy in the train? He may look harmless, but watch out for the wind up engine! He blows off the top of your last stuff!



Putty shortly before exploding. Note the look of intense concentration. Spontaneous combustion is a tough trick to do, you know.



...there's an kidding us. We recognize this one guy. Remember the Clangers? Remember the little guys in the soup can? Here he is!

released a better product than Putty. All the way through, samples fly out of the speakers thicker and faster than anything heard before. A sausage that threatens to 'ave you now' in a soussie accent, a cat that pops up to taunt you Bugs Bunny style and a theme tune vaguely reminiscent of the Jos 90 intro, complete with Hammond Organ. This game has over a Meg of sound samples, and it shows.

Visually, Putty is something else. The animation on the main screen is among the best I have ever seen, and I'm only too glad that there is a demo on this month's coverdisk so you can see how wonderfully he moves. Every little movement causes his eyes to swing about, and the angry look of concentration just before he explodes was one of the most expressive faces ever seen in an Amiga game.

Putty is unlike anything I have played. It's not quite a platform title, and there is too much to it to call it a console action title. One thing I can say about it is that it is brilliant. This in-house programming team have let their imaginations run riot and the result is one of the most original

MANUAL

Putty is a very versatile creature and you'll need a lot of practice to master his moves. System 3's Adrian Gale agrees, and feels that it's unfair to throw players in at the deep end. 'If I pick up a game, and find I can't play it right off, I get frustrated. We want people to enjoy Putty to the full, which is why we've thrown in the trainer mode on the first stage and given the game a definite curve'. The manual is also written for the first time Puttyist, using masses of illustrations to show exactly how to control our hero and what sort of strategies to adopt. How's that for customer service?

games for a long, long time. Each level offers a new challenge coupled with another motley collection of hostile enemy sprites to overcome. This game HAS to be in your collection, whether you want it or not. Thanks to Commodore's new deal, this game will appear in the Christmas packaging of the A800, Lucky beggers. Everyone else, buy it now.

WHAT DIDN'T GET IN

The helm of System 3 are almost completely bogged with this product. Almost, but not quite. The one thing they still find the time to complain about is the amount of things that they wanted to go in but just couldn't find the room for. Such as some heavy breathing from an over-sized cartoonish who threw himself out after the smallest jump. Watch out for data disks soon...

buyers guide

release date	October 1992
genre	Adventure
team	Id-Hedge
controls	mouse, joystick
numbers of discs	4
number of players	1
hard disk installable	no
memory	1MB

SYSTEM 3 £25.99

One of the best games ever. An instant classic.

GRAPHICS	96%
SOUND	95%
LASTABILITY	88%
PLAYABILITY	95%

OVERALL 95%

ARCHER MACLEAN'S POOL

Can Virgin follow up the immense success of Jimmy White's Whirlwind Snooker? Will Tony Dillon ever write a decent review? Read on for these answers and more...

THE WAY IT WAS

Back in 1988, Archer Maclean popped into EMAP Towers with an Archimedes disk. It was an early demo of a polygon snooker game which had everyone gasping in astonishment! Three years later it surfaced in the form of *Jimmy White's Whirlwind Snooker*. Both reviewers and printers loved it, and the game has been in the top thirty on and off ever since. And now Archer has turned his attentions to the other side of the Atlantic to produce *Pool*, a game which is more than just a cash-in on the previous license.

Pool is, in essence, a far simpler game than snooker. There are two main forms, although 8-Ball has both US and UK rules. 8-Ball basically consists of seven red and 7 yellow balls and the black. The aim is to knock down all your colour before your opponent has a go at them, and then knock down the black to win. In 9-Ball, a US tournament game, you are presented with nine numbered balls, and the winner is the person who knocks down the 9 ball. The only problem is, you have to hit the lowest ball on the table first. Any balls that go down after that are legal. For example: if on a break you hit the 1 ball which then cannons into the 9 ball, knocking it down, you are the winner. However, if you should hit the 2 ball when the 1 ball is on the table, a foul is called and control switches to the other player.

ANY DIFFERENCE?

Naturally, what everyone wants to know is what is the difference between this game and *Whirlwind*? To tell you the truth, not a hell of a lot. Instead of rewriting the game, Archer has merely added a handful of improvements to the framework, and



A flick shot then perfectly demonstrates the new computer intelligence. Unlike *Jimmy White's Snooker*, computer players can work out cushion shots and will try to pot two balls at once.



Lined up nicely on the corner pocket, the cue in the table shows that this is UK Rules 8-ball. In fact, one of the few differences between this and USA rules is the single sandwich on the table

kept the graphic engine and user interface the same. Now, on top of being able to play one or two player games, you can play 'best of' matches against the computer or a friend, playing 3, 5, 7 or 9 games, with the aim of winning more than your opposing cueist.

The computer intelligence has undergone a major overhaul. There are now twenty computer opponents to play against, each with their own playing styles, from Cross-Eyed Colin at one end (not particularly

BEAOLE'S ABOUT

Here's an interesting tidbit of information for you. Did you know that the brainbox who connected Archer Maclean's snooker project with Jimmy White was in fact... *Jeremy Beadle*? Apparently Archer was demonstrating his game at the Spring 1991 ECTS show when everyone's favourite entertainer walked in on the scene, spotted the program and said "Why don't you call Terry Hearn and license Jimmy White for that?". Archer asked the "lads" got on the blower and the deal was done. And you thought Beadle was just a... (the rest of this sentence has been censored following legal advice from our solicitors.)

good at aiming) to Jimmy Brit, the finest potter in the pool world. There are no specific difficulty levels, unlike the original, but it isn't too hard to figure out how good a player is from their name. Actual shots have been improved and increased, however, with computer opponents being able to pull off cannon shots and pot two



Ah, how easy it would be just to pot the 1 ball now. Unfortunately, the lower numbered balls have to be hit first, so this opportunity is wasted



This slow motion shot shows how perfectly smooth the ball movement is, and so it should be remembering that there are 88 different sizes of ball



A less than perfect break. Did you know that the position the balls end up in after a break is calculated before the shot is taken? It all happens when the cue moves in and out...

balls at once. There is a whole range of trick shots at their disposal which'll leave you standing at the foot of the table watching anxiously.

The other main improvement is the new scoring system. Obviously in pool you don't rack up numerical scores like you do in snooker, so Archer Maclean has come up with a novel system of recording how well you're playing. The Rankomatas gives you the order of potted balls, your overall skill rating as a percentage and various other statistics. This is what gets saved out at the end of each go.

NUMBER CRUNCHER

The most striking thing about *Whirlwind Snooker* is the graphics. Convincing, smooth and very fast, it isn't hard to understand why it sold so well. Can Archer do the same with *Pool*, though, as pool balls are numbered and the 9 ball has a stripe down the middle? Calculating the position of the numbers as they rotate around the ball would call for some serious number crunching, and so Archer has decided not to have rolling numbers. Sadly, this detracts from the game, making the balls look as though they are gliding around like table hockey pucks. Even so, they still zip around smoothly enough, and the 88 different sizes of ball graphics means that the balls all glide across the table realistically.

The game itself plays exactly the same as the previous one. A row of icons gives you all the options necessary, while holding down the left mouse button allows you to rotate the table and holding down the left tells you zoom in and out.

To all intents and purposes *Pool* is almost identical to *Whirlwind Snooker*, which is why I can only recommend this to you if you (a) don't have the previous title or (b) loved the first one so much you want more of the same.



EXTRA BITS

One thing everyone remembers from the original game were the little extra bits - these Archer Maclean trademarks designed to give you a giggle while you played. Cat Paws crawled up the screen and hauled potted funny faces - where would the sequel be without a little of that thrown in. Not only are the felines still included, but new ideas include eyes that blink in the backdrop and a saw that comes up from under the table and makes a little beep!

buyers guide	
release date	October 1992
genre	6im
name	Archer Maclean
controls	mouse
number of disks	1
number of players	1
hard disk installable	no
memory	1Mb

VIRGIN £25.99

Will keep you coming back time after time...

GRAPHICS	88%
SOUND	83%
LASTABILITY	90%
PLAYABILITY	90%

OVERALL 88%



USA #1 at pool. In the US, all the balls are numbered and the aim is to sink the 1 ball. Sadly, the numbers don't move around the balls as that would have made the game too slow.

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On the globe screen, you alter the planet's environment through the buttons at the bottom select the different scenarios, such as sea temperature and location of any cities.

SIM EARTH

In the beginning there was darkness.
John Mather turns on the lights...

LIFE AND TIMES

Sim City is generally regarded as one of the best products ever released on a 16-bit machine. On paper the game might sound deathly dull. I mean, the chance to build your own city from scratch, complete with roads, power cables and nuclear reactors doesn't sound very interesting, does it? Maybe it would appeal to sad anaesthetists, but who else? In practice, though, the game was a revelation and became an instant classic.

For the last three years, Maxis have been working on its successor. The finished game - SimEarth - is so huge it encompasses the entire solar system and projects way out into the future. Your decisions can affect anything from a single life cell through to a complete planet. When it was released on the PC and Mac, the game received rave reviews in the computer press and now, finally, we have the finished Amiga version. Hurrah.

TOY CUPBOARD

Maxis prefer to call SimEarth's 'soft-war' toy rather than a game. A game, they state, has a preset beginning, a preset end and a specific turn throughout. A toy, however, is something you can use in anyway you find possible. In this respect, SimEarth definitely falls into the sec-

ond category. The basic aim is to guide a planet through its evolutionary processes and keep things ticking over. The modal runs around a theory created by James Lovelock called Gaia (see 'Gaia Theory' box out). Your task is to ensure that the planet stays in a condition suitable for its inhabitants. If your planet is largely water based, and you have a lot of different types of fish bobbing about, it

wouldn't make much sense to increase the greenhouse effect and the sun's heat, effectively boiling away the oceans. This is a bit of a lot more complicated than it sounds. In your disconnected position, you have complete control over almost everything in and on the planet. You can create life, destroy it, cause major tragedies, birth new oceans, even change the way sentient and non-sentient beings behave and respond, all through a series of menus and slider bars.

MAJOR TOM

Your overall objective varies depending on which of the eight scenarios you want to play. You can take on Earth in prehistoric times, just before the birth of mankind, and shape the planet through to its ultimate ending as the sun washes over it. Alternatively, you can try solving modern day problems, such as cop-

ing with nuclear fallout, reducing the greenhouse effect, removing starvation and generally returning the planet to the Garden of Eden. Should you find that a little heavy, you could try to colonise Mars or Venus, adding an atmosphere and essentially terraforming the planet to your own requirements. There is also the chance to completely design a planet from scratch, to give yourself various problems of your own making or to explore how different situations would evolve with different actions.

The first thing you'll notice when you open the box are the two SimEarth game disks. One is for the standard user, while the other requires 1Mb to play and runs in low resolution mode. The other is for more advanced machines, running in hi-res interlaced and requiring 2Mb. The latter is obviously tailored to the PC and Macintosh versions, but you only lose out on presentation if you don't have the high grade set up.

On booting, you are presented with the opening menu. This shows you the eight different scenarios you can play on, as well as the difficulty level. Changing the level of difficulty doesn't actually change how the game runs, but it does affect the amount of energy you have to deal with problems. There is also an experimental mode, which gives you limitless energy, making life so much easier.

CREATURE COMFORTS

Energy is at the core of the game and is split into two parts. The first, your energy, is the total amount of

control you have over the running of the planet. Creating life takes only small amounts, and you can pop animals down wherever you like most of the time. Doing something a little larger, however, such as causing an earthquake, eats up your energy in no time.

The other kind of energy belongs to the SimEarthlings, and although you inherit some of this, you can never have control over it. Essentially, as species develop and grow, you get more and more energy - rather like taxation in Sim City.

The game is essentially played out over three screens, although there are numerous windows that can be called up at any time. The first is the map screen. This gives a full, flat map of your planet along with a series of buttons at the bottom. By pressing on different buttons, you can find out about the temperature, air currents, amounts and position of life on the planet and various other things. A click on the Globe option turns the map into a rotating ball, showing more precisely

MANUAL LABOUR Flipping through the manual gives you a good idea as to how much that has gone into SimEarth. Spread over 220 pages, the first 16 outline the game, the following 130 detail the events and phenomena, and the remaining 80 pages contain explanations in detail. From science and the life theory, that deal with the necessary to know Earth science before you play the game, but it does enhance the experience when you find you can explain why something is happening and how make educated guesses as to how to solve any problems.

SIM EARTH



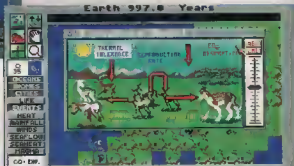
Earth in the present day. All major areas are marked, and this facility lets you chart the progress of land as the tectonic plates move.



A meteorite falls onto a large area of land, causing it to split. Natural disasters can be called up at any time to help you form new and massive



Above: These are all the lifeforms you can work with, as well as the different machines you can plant to change the world.



Just one of the four models you can use to adapt the world's way at its. By clicking on the different topics and moving the slider, you can change how it evolves.

where everything is. Interestingly enough, the maps of Earth, Venus and Mars are very accurate. Most of the time this screen is used for reference, a way of seeing at a glance if there are any major problems that need fixing.

The main screen is the editor

GAIA in SimEarth. Gaia is a living object, a face projected on the side of a planet, and by looking at her you can see how well you're doing. She displays a range of emotions, from joy to sadness to anger, depending on whether you're harming the globe or not. Halfday seems to irritate her most, though, her slapping her is the sign with the most pain. So this and the moons, shouting "Don't do that!"

THE GAIA THEORY The Gaia theory states that the Earth is a self-regulating system — no matter what we do to it, it will survive. Life may not, but we can never hurt the Earth. This theory is one that, while once widely discussed, isn't widely accepted by the scientific community. There may be a bit to signify its truth (like the fact that the Earth's temperature has remained constant for the last 3.5 billion years despite an increase in solar heat of 28%, and the fact that oxygen has formed 21% of the atmosphere for 200 million years) there are still no solid facts. In SimEarth, Gaia keeps the planet in about even of this time, and you have to do to keep it favorable for life.

where all the action happens. The main part of the screen is taken up with a close-up view of part of the landscape. Marked on this map are all the different types of terrain and inhabitants. Obviously this view is simplified, but what more could you expect?

WORLD DECISIONS

Down the left side of the screen are the main game options, and this is where you really start to interact. The first icon lets you place things on the planet, such as lifeforms and different pieces of technology. If the time or climate are wrong, they will die out instantly. Nurture them, and they'll flourish. The final option is the Monolith. This large black shape — as in 2001, is used to promote intelligence within creatures, and before long the creature you use it on will become sentient. You can only have one sentient race at a time, and as the race passes through the different ages (industrial, technological, etc) it finally reaches the space race at which point all of the creatures of that ilk leave the planet in rockets to colonise other planets, and the game begins all over again.

Other options include the raising and lowering of land, changing the scenery and, to my mind the most interesting, adding natural disasters such as tidal waves and virulent plagues. Try to imagine the effect that a major volcano slab began in the middle of England would have on the coast of France. Or have you ever

wondered what a meteorite the size of a city would have on the global infrastructure? In this game you don't have to imagine as you can create a whole plethora of disasters one after another.

There are four different scientific models to play with, too, which allow you to alter general fundamental aspects of the planet. The Atmosphere model, for example, allows you to change the amount of sunlight, the power of the sun and the strength of the greenhouse effect, whereas the Civilization model lets you change the sociological aspects of the sentient race, be they working in agriculture or the arts. And this is all done by selecting the relevant option and then sliding a bar.

INFORMATION

There are almost limitless sources of information in the game, all of which have to be monitored at some point or another. There are a number of graphs detailing such items as the amount of nitrogen in the atmosphere to how many wars there have been in the last hundred years. In fact, the amount of information is the most daunting thing of all. You really do have to watch you back in this game — as disaster can come from any angle.

The key thing about SimEarth is its leaning toward realism. It becomes fascinating, even addictive after a while just exploring the possibilities available. In that respect it actually forms quite a good learning

tool, as well as being a hell of a lot of fun to use.

It's going to take a very long time to become completely familiar with the package, probably far longer than the couple of weeks I've had with it, but I'm loving every minute. This game requires more brainpower than any others I have ever played, but if you really want a challenge, and are ready to see what a simulator is all about, then get this the second it hits the shelf. Simply incredible. **A**

BUYER'S GUIDE

retail price	Out Now
genre	Simulation
team	Moss
controls	Sound
number of disks	2
number of players	1
hard disk installation	yes
memory	1 Mb

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GRAPHICS	79%
SOUND	65%
LASTABILITY	95%
PLAYABILITY	93%

OVERALL 93%



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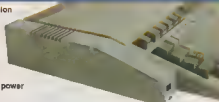
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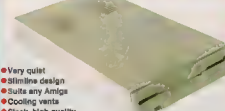
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LOTUS 3

THE ULTIMATE CHALLENGE

Undergoing a complete refit and spray job, Lotus 3 is set to provide a new benchmark in Amiga racing games. Tony Dillon revs up for action.

THE LAST LAP

Gremlin have made themselves a lot of money out of their Lotus license. Both the previous incarnations stormed the software charts and collected awards by the bucket full. Interestingly, both games attracted a slightly different audience. The original game's tracks were all looped, while Lotus 2 had you racing through different scenarios with only the clock to beat. You either liked the first one and hated the second game, or vice versa, but rarely would anyone own up to liking them both. To get around this problem, Gremlin have included both options in this latest game, hop-

ing to please all of the people all of the time.

Lotus 3 probably has enough in it to keep everyone satisfied - even those who happen to have the previous games already. Not only does the game allow you to play circuits or stages, as part of a championship or against the clock, it also has RECS (Race Environment Construction System), a novel way of generating new courses, but more on that later.

THEMATIC DRIVING

Both earlier titles had some 'themes' to them, some goal you had to reach

to finish the game. In the first it was to complete all the tracks and come out on top. In the second it was to just reach the end. This new package is a pure arcade racing game, dressed up in millions of fancy options. For a start, there are 64 tracks already built in, ranging over twelve different backdrops and scenarios.

Not only do you race through fog, rain, snow, marsh and motorway sections as in Lotus 2, but there are also new scenarios such as mountain driving, a throwback to the early days of Accolade's *Test Drive*, where you speed your way along winding moun-

tain tracks, with a cliff on one side and a steep drop on the other. There's also a futuristic race track, set over a checkered course which has you avoiding laser cannons and huge magnets which drag you car off over the shop (even though it's supposedly made of fibreglass!).

The racing sections are simply the best yet. There's no huge improvement over the previous two games, but any rough edges have been smoothed over. But then again, what did you expect? Shaun Southern has done this three times now.

This time there are three cars to race in - the Lotus Esprit, the Elan

139 · KM/H ·

4TH

7TH

00080960

RECS

Next RACE

COURSE - BOSSWOLF · 00
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Everything about the game is gorgeous. With the added bonus of the RECS system, there's an almost infinite number of tracks to race over, ensuring that you'll come back time and again. The four-player split-screen scenario you can link up two Amigas for a head-to-head confrontation has a two been retained.

154 MPH



and the futuristic M200, a turbo-powered dream machine. All can be raced with manual or automatic gears, and can be controlled with either the keyboard or joystick, using either forward or fire as the accelerator. No-one can say that Gremlin haven't tried to make this game as adaptable as possible.

CONSTRUCTOR

Thinking of being adaptable, now we come to the bit you're all dying to find out about - RECS. In any other game

that allows the player to build a track, the form has always been the same. Tracks are always pieced together. Scaffolding style, by adding one piece after another until the basic shape is there. Then it's the turn of the hills and roadside objects to be added. This is a time-consuming process, and one that becomes very dull after a while. On top of that, the track usually has to be saved to disk if you ever want to play it again!

RECS is a completely different way of doing things. Nine letters and two numbers are all you need to con-

struct the course of your dreams, and between them there are literally millions of different courses available. The way it works is this. There are nine different statistics to each course, most of which are set as percentages. Aspects such as the amount of bends, hills and roadside objects are all set by clicking on a plus or minus button. On top of this,

you can change the scenario between the dozen available, and set an overall difficulty level which dictates the skills of the other drivers, fuel consumption, road handling etc.

Once you have set everything to your liking, you can make a note of the corresponding codeword and come back to play the same track time and time again. A fun aspect of this system is that you can enter names instead of codes such as TONYDYLAN20. Best that if you can't



slightly wary of splashing out on what is essentially more of the same. But then that's your decision. It certainly stomps all over such recent offerings as Titus' Crazy Cars 3 and Core's Jaguar racer.

Overall, Lotus 3 is streets ahead of the competition and deserves a place in anyone's software collection.

buyers guide

release date	Out Now
genre	Arcade Racer
team	Magnetic Fields
controls	Joystick/Keyboard
numbers of disks	2
number of players	1/4
hard disk installable	no
memory	All machines

GREMLIN £25.99

A new Amiga gaming classic. Essential...

GRAPHICS	85%
SOUND	84%
LASTABILITY	89%
PLAYABILITY	89%

OVERALL 86%



This time there are three cars to choose from, including a futuristic prototype model which is a turbo-charged dream machine.

THE BEST

What can I say? It's just the best racing game yet seen on the Amiga. It's well designed, well presented and plays perfectly. The only criticism I can level at the game is an over-riding sense of déjà vu when playing it. The 'been there done that' sensation is hard to ignore as most of the elements have been seen in the previous two games. If I already owned a copy of either title, I'd be



Help! It is the caption writer here. I've always wanted a real-life Lotus since I was a little boy but what does I get? A Mini Metro? I ask you, is there any justice in life? I think not.



the TROLL'S HEAD

and ADVENTURE HELPLINE

Here in the Troll's Head you can drink a tankard of ale at the bar and listen to the rumours and gossip of all that's happening in the world of roll playing games and adventures. You can peruse the Heroes Wanted board which gives details of the newest and most exciting quests requiring volunteers and party leaders. Or perhaps you're in a hurry and just have time to rush in and use the all-knowing, all-seeing Shrine for a quick hint. Either way, now that you've found the way to the tavern, don't be a stranger in the future. We'll be here every month serving ele end sustenance to the weary traveller and we'll be glad to help you in your travels.

RUMOUR CORNER

Your mug with its thin mangle with the old warriors seated around the blazing log fire to hear rumours and scandal from all over the kingdom. Did you hear that Pony Crowther, the creator of the highly successful *Captive* and *Knights* games, has been locked in a dungeon beneath the offices of Mindscape Software with a huge beam of straw? Shock, horror! It appears that the poor lad will not be let out until the spring, all of the straw into another game which will make as much gold as his previous successes. I can tell you for a fact that he is spinning, as his hopes on a sequel to the *Captive* game which will be called *Captive II - The Freedom Fighters*.

Having been released from your own prison in *Captive* you now decide to use both your knowledge and your battle-hardened androids to free the other political prisoners. The game is well under way now and here are a few of the ideas which will be incorporated into it. Like its predecessor, *Captive* it will have multiple levels and a new storyline generated to go along with it, so you will certainly get your money's worth. There will be a new screen layout which allows you to have a view of two levels at the same time, in that way you'll be able to keep an eye on the monsters in the levels around you and be able to better plan your strategy. It is hoped that there will be an option to play the game with a friend via a modem link and in that case you'll be able to split your wars and fight the levels separately.

The game will be hard disk installable which is just as

well as they plan to use all the colours the Amiga can support and it will take up a fair bit of space to store all the flash graphics they plan to create into it.

HEROES WANTED

Prize of place in the Situations Vacant Board this month is an appeal from the town of Turnvale for a hero to come and save the population from an outbreak of Skoris. Sources point out doesn't it?

LURE OF THE TEMPTRESS

Here is a quest which is doing very nice business in the next valley, hearing up would-be heroes who are trying to



Gurgling fountains and gushing gales grace the streets in *Lure of the Temptress*. If you're looking for a job then come to sunny Turnvale for the quest of your life.

unseat an evil enchantress named Selena. She is using a legion of mercenary monsters called Skoris who are as charmless as a troll with a sore head. The hobble include hanging people with nose-hooks and timing new ways to serve man (Serve, as to serve on a dinner plate!) This is a relatively simple quest in which you adopt the guise of a young prince who must slomp around a beautifully detailed village solving the puzzles which will lead you to overcome the hated conqueror. Qualifications Required: If you can stand top quality graphics, good sound effects and have a low belly laugh, then you could be just the hero for this quest. This has a high fun level and low difficulty rating, therefore applications will be accepted from medium grade adventurers.

SHRINE OF KNOWLEDGE

Here in the darkened corner at the rear of the Tavern you'll find the Shrine of Knowledge. It is here that all prayers for help can be answered. Draw near and kneel before the flickering candles. Insert one gold piece into the slot and speak loudly into the wire grille on the wall. If your heart is pure (and your gold is pure!) then the magic Shrine will answer all your problems concerning RPGs and Adventures.

EYE OF THE BEHOLDER 2

Neil Yates from Walsall has been having trouble with *Eye of the Beholder II*. He's stuck on the first floor above the Temple at Darkmoon. After completing all at the tower levels, plus the enormous test he can't open the strange, green shield door.

This door is the one behind the talking mouth which won't let you pass until you have the mark of Darkmoon upon your hand. A sign on the door says, 'The shield protects what lies beyond'.

The Shrine replies: You are obviously a worthy knight to have come thus far. I know that the tower caverns at the Darkmoon Temple contains monsters beyond counting. To have gained the mark of Darkmoon is also no easy task for it means you have defeated two Beholders in close combat. The green door which this before you has no key and no magic will unlock its secret, only force of arms will lead you forward. The sword weapon which will secure the route is made from the same magical element as the door itself. Seek the mystical emerald hammer then use it to strike down the barrier.

KNIGHTMARE

Mindscape's *Knighmare* has been causing Steven Roberts from Lancashire a few problems. He is only just begun the game and cannot pass the trees which guard the entrance to the castle caverns.

The Shrine replies: There is but one tree which you can pass to gain entrance to the first quest. Seek the tree which is looking for its lost child and here is your entry point. The lost child which the tree seeks is none other than a little bird which sits on the ground next to a red tree switch near the entrance place. Cast this item at the tree and it will disappear leaving your way clear. I will also give further warning to others in this quest.

Others must be thrown at the remaining tree guards and you must use the strongest member of your party to hurl these objects or the blow will not be strong enough to clear the way.

LEISURE SUIT LARRY

B. Berberg from Essex is stuck onboard an airliner with *Leisure Suit Larry II*. Having taken the parachute from the machine, he boarded the plane and gave the religious pamphlet to Ken the boy. After trying to open the emergency exit door with the knife, but to no avail, he ended up being arrested by the KGB when the plane lands. The travelling body made his better begging for help, so in a fit of generosity the Shrine has deemed to answer his plea.

The Shrine replies: Are you on a diet? I ask because you obviously walked straight past the airport cafeteria without ordering a meal. I congratulate you on keeping your body clear of a sport food, but unfortunately this has caused you to miss buying a meal spiced with a dis-

gusting hair pin. Keep to your spartan diet and don't eat the food, but save the hair pin to pick the lock at the emergency door. Happy findings.

BARD'S TALE III

Terry McGovern from Huddersfield would like to trade a few hints from *Black Crystal* for help with *Bard's Tale III*. Take it away, Terry. 'On level 3 of *Black Crystal* I gained the mask of true seeing, but I still wasn't able to see the invisible monsters. The answer is to ensure that the person wearing the mask is the leader of the party. My problem in *Bard's Tale III* is that I don't know what to do with Cyants, if I kill him he just drops a magic triangle which is useless to my party members.

The Shrine replies: I thank you for your advice, but needless to say your words were of little help. Would you try to instruct a nightingale how to sing? The Shrine knows all, hears all and sees all! Still it proves your heart is in the right place. Pay close attention to my advice and perhaps you will be able to keep it thrust.

To complete Cyants Tower you will need five roses and the Crystal Key. When you find Cyants you can either kill him, or be a little more subtle and cast REST to cure him. Both of these actions will secure the magic triangle for you. You will need this triangle plus the five roses before you embark on Ahrbas' Tomb.

The triangle is used to get past the black crystal's go guard it well. The location of Ahrbas' Tomb is 0N, 7W. Heed also these further wise words regarding triangles 'The squaw on the hippopotamus is equal to the sum of the squaw on the other two hoes'. This place of knowledge has nothing to do with your quest, but when times are hard it may cheer you up!

ELVIRA 2

Getting something out of an old boot is proving a tough challenge for David Baverstock from Plymouth in *Elvira II*. 'Can you please let me how to get into the boot of Elvira's car that is parked in the car park?' he pleads at the end of his letter.

The Shrine replies: Your noble intuitions speak well for you my son. Most enquiries I get from young knights involve acquiring access to other parts of Elvira. You are right that there is a problem getting into the boot of this warlike witch a fact which makes it, of late, seem quite a handful. In fact the simple answer is that you must point and click the mouse at a point higher on the car to make the lid open. I know to others this may seem a trivial problem, but as with most problems everything is easy when you know how. Inside the boot you will find a pair of tiny cutters - be careful with these. You will also find an open ended wrench for removing nails - be 'very' careful with that!

MONKEY ISLAND 2

Kristen Gillespie from Glasgow is a densenal in distress. She is high in a tree house on Boaty Island where a bird has stolen a piece of the treasure map and dropped it into a large pile of other pieces and now she doesn't know how to get it back.

The Shrine replies: This problem requires someone to 'sniff out' the solution. Cast your mind back to when you left the mansion holding the map. Do you remember the big dog which sniffed the air and then announced the alarm? Your wet-nosed friend obviously knows the smell of the genuine map, so I suggest you go and pick him up and take him to have a nose around the tree house.

RULES OF THE HOUSE

All weapons and villainous wands must be deposited with the innkeeper for safe keeping.
No swearing, no spitting and no friendly bedside allowed.
No frolic allowed in the bar after 9 pm.
Guest Ale - 1 gold piece.
At the ale you can drink, plus a straw bed - 4 gold pieces.

Warning: Anyone caught with a hand-held console will be forcibly ejected!

By Order of
The Innkeeper



How heavy indeed are aliened in the Tavern, but in the *Bard's Tale II* you'll get into it at least to sing for your supper.



Before you throw yourself into the bosom of Elvira's firm attitude, make sure you search her car boot for some essential items.



If you're hanging around looking for assistance with *Elvira II*, then drop in to the Tavern and ask the Innkeeper for help.



The Night Riders in *Quest for Glory* contains all that the aspiring Magician will need before embarking on an Arabian adventure.

LORD OF THE RINGS

Tristram's Lord of the Rings is causing Mark Mottish and his hobbits a spot of bother. One of his companions has reached the House of Elrond in Rivendell, but Elrond has asked him to provide proof that the Black Riders have been dispersed. Where is this proof? His other company has reached the house of Tom Bombadil, but he doesn't know what to do there as whenever he attempts to go upstairs he is forced to go down again.

The Shrine replies: Search both sides of the river, for there lies the casks of the Black Riders in which testimony to their defeat. There are four casks on each side of the river for you to find. Entering the house of Tom Bombadil will result in all damage to those in suffering. Tom will stay in the house until your party has visited Goldberry. If the Ring-bearer visits Tom's house and goes upstairs and sleeps in the bedroom something extremely useful will happen.

I will speak also of the Barrow Downs here if I feel you will need help. There is a stone circle directly east of the Great Barrow which has magical properties. Dropping items within the circle will reveal many secrets.

DUNGEON MASTER

Celen Hyatt from Southampton is on Level 3 of *Dungeon Master* and cannot close a pit which blocks his way inside an area called the Vault. A sign beside the pit says, 'Cast your Influence. Cast your might.' In another area called 'Time is of the Essence' there is a wall button and a pressure plate on the floor whose purpose I do not understand.

The Shrine replies: Experience tells me that by now you should have found the scroll which reveals the secret of the Open Door spell. There is a closed door at the other side of the open pit. 'Cast your Influence' by casting the spell which will send a bolt of power across the pit to open this door. Behind the door lies a floor and which will shut the pit if you simply cast a heavy object with all of your might across the gap. Just inside the 'Time' area is a wall switch. Four paces down the corridor there is a wall which will disappear for a moment if the switch is pressed.

The trick is to press the switch then move sideways and finally forward as quickly as possible. Don't waste time turning to face the way you are going. 'Time is of the essence'!

KING'S QUEST IV

As a newcomer to the world of adventure gaming, Sari Khaymas is experiencing lots of trouble with the Sierra Kingstons. 'Can I by hint books for them?' asks the little Inqrat. 'I am playing *Kings Quest IV* and I am stuck between the forest and Genesta's island. I have the peacock's feather, bow, fishing pole and a dead fish, but I can't find the bridge, the white or the magic trout. Is there a way through the man-eating trees?'

The Shrine replies: Sierra do indeed cost millions of gold pieces by selling hint books to weary adventurers and they will be only too happy to take your gold as well. You can order such books from any good software supplier. I would suggest that you would do better to buy some of the *Quest for Quests* books which are also available from software suppliers or direct from Mindspace, Priority House, Charles Avenue, Burgess Hill, West Sussex BN24 9PD. Tel: 0444 246332.

Each of these books, there are five at present, contain solutions to forty adventures including all of the Sierra games. In the Kingdom of Genesta your next move is to find the white. This will mean that you must go swimming again as there are few whales to be found in the forest. Try swimming out to sea from different points on the beach and the white will turn up eventually. Beware of the shark. Once you are swallowed by the whale, it is the latter which will help you to get out again.

There is a way through the forest, but the time is not right for you to be making this journey. Only when you have been into the Open House will you have the object which will get you safely through the trees.

TRIAL BY FIRE

Mark Sporn of Bromley seeks help with *Sierra's Quest for Glory II*. His is some into the Ladder Room, the Palace of Rasair, but then gets arrested. What will do he expect to happen, the stupid schmuck!

The Shrine replies: There is no way to avoid being arrested once you have entered the Harem, I assume you get in by giving your visa and your change of clothes to the woman you met. Once you are in prison you will meet Sharaf and you must tell him about yourself. In order to gain his confidence. You must now cast an Open spell to get free from your cell. Sharaf will show you the secret way out of the prison, but don't forget to take all of your things before leaving.

If you have a problem, or perhaps you have a piece of scandal which you wish to whisper in the Rumour Corner write to Tony Gill at: The Troll's Head, CU Amiga, 30-32 Farringdon Lane, London EC1R 3AU.

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LURE *of the* TEMPTRESS



If the Skorls are giving you a hard time in Virgin's new graphic adventure, Tony Gill is here to give you a helping hand.

THE KING IS DEAD...

Now you and I both know that beneath your rough clothes and grimy face, you are in reality a Prince. It's only a whiff of cruel fate which has brought you to this damp and dirty cell — where you have been strung up by the Skorls!

The King is dead. The population live under the evil rule of Selena the sorceress, and you will only be around until your number comes up as the main course for the Skorl's banquet. Luckily you are pretty bright, and as the cell-block guard is as thick as two short planks nailed together, it shouldn't take you long to create a diversion and escape. Looking the guard in your own cell will give you ample time to examine the surrounding cells, to take your time and make sure you don't miss anything — that includes the corn inside the sack head door! In the nearby cells are the first of the many characters you will meet in this graphic adventure, and by talking to them you will find out more about the castle and the secret passageway which leads to freedom.

A HELPING HAND

Throughout the game you will come across problems that require the help of someone who is sneaker, and more devout than your own noble self — and to help fill this gap the game's writers thoughtfully decided to provide you with such a companion. As the editor of CU Amiga was too busy to take time off to assist, a streetwise urdu called Ratpouch will follow you wherever you go. Ratpouch is full of useful talents and rude humour, and he can be used to carry out simple tasks by using a menu of simple commands. You'll be able to instruct your newly-found friend

to make a hole in the cell wall and soon you'll be into the sewer outlet and on a slippery, but smelly, ride to freedom.

LOOKS CAN BE DECEIVING

Outside the castle walls is the sleepy, but beautifully drawn, village of Turnvale. Although all the quaint little houses and inns have comfortable interiors, the inhabitants of the village seem to spend their time walking in endless circles along the cobbled streets. Stand on any street corner and eventually everyone you could ever wish to meet will walk past. Exceptions to this rule are the hardened drinkers of the Severed Arms and the Magpie Tavern. The Old Trout ale which is sold in the town pub seems to keep beerlovers glued to their seats, but at least it means you'll know where to find them when you need them.

MORE RABBIT THAN SAINSBURY'S

I hope you are a friendly type who likes meeting people because that is something you're going to be doing a lot of in this game. Each time you 'Talk' to a character you will learn something new and this will give you more to talk about with the next NPC (non-playing character) you bump into in the street. There are people like Gwyn the town gossip, who will be only too pleased to tell you everything you could ever wish to know as soon as you stand in their way, but there are others like the two wandering monks who will ignore all your attempts to interrupt their meditations. The first rule of this game is to talk to everyone about everything and as soon as you find out something new, talk to every one again concerning your latest bit



It really isn't your fault! At every turn there seems to be another monster to vanquish, another demon to slay. What a life.



There is not a lot to be found in the Monks' House, except for a message saying that there is not a lot to be found! However, like in the real place where the monks will reply to your questions, so take a piece and wait for their return.

of information. Sometimes you may need to buy the locals a couple of drinks before they'll open their lips, but the money will be well spent. At a later stage you will have to speak to the tight-lipped religious brothers, but before you stand a chance of having a word with them you'll need to get inside this Monk's House which is normally locked. Although it is possible to slip inside



when one of the monks is also entering, you'll get in easily later on in the game when the time is right.

USING YOUR MOUSE TO REVEAL ALL

Moving the mouse cursor over the screen will highlight the items of interest which can be examined. Once you have examined an object this may reveal further items which can then be highlighted and used. For example the barrel in the prison contains drink which can be used to fill the empty bottle nearby, but until you examine the barrel you will not be able to find or use the top. Other objects will only become visible once you know of their existence. For example, examining the apparatus which is found in the shuttered house in the town square will tell you very little, until you also read the magician's diary which describes the equipment in detail.

There is a strange smell in the Monks' house. Is the smell caused by the burning of incense, or the fumes of Brother Whisks' 'Wacky Bacon'? Is it an unfortunate side-effect caused by the monks' vegetarian diet of warts and cabbage? In fact the smell comes from a mixture of herbs which Brother Whisk comes in his robes. Herbs play a large part in the game, because your beautiful bride-to-be is the manageress of the local herb shop, and with the help of her magic poisons you will solve one of the main problems in the game. Of course you're not going to see any of this until you rescue the fair Goewin who has been dragged off to be interrogated by the Skolds in the Town Hall. The magician's apparatus will give you the solution to this problem, but first you are going to need the magician's diary, a tinderbox and an empty flask.



This is the village. You are not a number, you are Diarmuid and you've landed yourself well and truly in it.

easily obtained by simply talking to the correct person, and the tinderbox is just waiting to be picked up from the floor of the blacksmith's forge.

Finding the forge is not so easy as its entrance is slightly obscured, but if you listen for the beat of the blacksmith's hammer you'll find it less than a stone's throw from his favourite pub. Getting a full flask isn't difficult, even though you will have to engage in some shady dealing with the town sneak called Melin to get it. The problem comes when you want to empty the flask. In the world of men you can simply empty a flask if you don't like what's in it, but in the awkward world of adventures you're going to have to find someone with an iron constitution to drink the fiery brew it contains.

OPENING THOSE DAMN DOORS

Locked doors are the bane of the everyday adventurer and the fair village of Turnvale has more than its fair share. The town's drunken philosopher whose job it is to hold up the wall in the centre of the village with his head, also holds the key to at least one door (though even this will require the skills of your sneaky friend to use it). The door to the Town Hall can only be passed by the evil Skolds - or at least someone who looks like her double! The Weragate is guarded by two gargoyle statues who will only open the gates for a midwife who can speak the magic words. To find these magic words have a chat with an old dragon fighter who has been there a while before you. No sooner will you have passed through the Weragate than you will find that yet another sequence of doors controlled by moveable skulls await you. You'll soon find that you cannot pass through these rooms without the aid of another pair of hands, so it's a damn lucky that the fair Goewin has come with you. (Ratpouch at this point has decided to spend his time trying to persuade the local bartender to sell him a drink rather than following you into the Dragon's Den.)

Make sure you save your game position at this point as it's possible to think you've solved the door puzzle and move forward to a position from which there is no way back. Let your rule be: Do not to move forward until you know you can open the door that just slammed behind you. The solution isn't as difficult, you simply need to note what skull controls what doors. Having returned in triumph from the Weragate you'll be faced by yet another route blocked by the imposing black steel doors of the Skold Castle. To get past this armour plated problem you should pay close attention to the wandering Skold guards as one of them is acting very strangely and will provide a clue to the problem.

ALWAYS BE A GOOD GUY

Dealing in stolen goods will cause you problems, so if some shady character asks you to transport some 'hot item' for him, take it straight to its rightful owner instead. It's also the sign of a 'nice' adventurer to sit and listen to effy old grannies who 'whee' on about the good old days, what they did when they were a little girl, and give you graphic details about their cat's opinions. Smile and look interested because you never know when they will tell you something of vital importance - like where you can get herb picking for a start! ☺

THE CITIZENS OF TURNVALE

Take a stroll around the village of Turnvale and you'll encounter all manner of weirdos and degenerate freeloaders.

GWYN - A light-fingered woman who wouldn't say a bad word about anyone - unless you asked her!

RATPOUCH - A young lecher condemned for poking fun at the Skold invaders. When you are in deep trouble and can't think what to do next, by asking Ratpouch his opinion. He may not have a sensible suggestion, but his jokes might make your situation more bearable.

GOEWIN - Pretty as a picture and the object of your youthful desires. Goewin mixes potions in the herb shop and is ready at the drop of her eyelashes to follow you into any adventure. If you are a Prince in disguise, the 'smart' money says the Goewin is going to turn out to be a long lost princess before the game ends.

BROTHER WHELK - Not much of a conversationalist, but the monks have a few items of information which will help you save the day.

HROTHER TOBY - The second of the religious order who wanders the streets of Turnvale. Find his missing book to get vital information.

MALLIN - The town clerk who has his fingers into everything illegal. He doesn't care who rules the country as long as it doesn't interfere with his business deal logs.

ULTAN - This beefy barbarian is an old dragon slayer but as there doesn't appear to be any old dragons left to hunt he has decided to spend his days drinking Old Troll ale in the Severed Arms Inn. Being as drunk as a skunk, he'll say the silliest things at times, but his experience in the dragon-killing business means that he does know a thing or two.

EILEEN - Being able to kill and drink at the same time seems to be this woman's only skill, although she does seem to have a shady past.

LUTHERN - The village smithy is strong in the arm and thick in the head. He is a well-meaning type, but those citizens who followed his advice in the past have ended up in the Skold's dungeons.

GRUB - He has a drunk on a deep-thinking philosopher's whistle, he's a Glub spirit who has died lying in the sun and spouting weird ideas which don't seem to make much sense to anyone but himself.

CATHIONA - The old granny who sits by the warmth of the smithy's fire is only too willing to waffle on about old legends and silly stories. Resist the temptation to stick her up the chimney.

EWAN - The village shopkeeper is a very odd cove who talks to his vegetables and tells rude jokes to his customers about cucumbers. If you try and spy on him through the shop window you'll find that he also has an ample supply of rude gestures.

SKOLD PATROL - The muscle-bonded Skold patrolmen who stalk the village don't have much to say. 'Shut up!' will be the only reply you'll get from these a chilling conversation artists.

ROCKIES - Definitely a shady character, who is probably in the pay of the Skolds. Don't expect to get much help from him unless you are prepared to pay for it.

NELLIE - Landlady of the Maple Inn. This mature lady has got a soft spot for Ratpouch, but she will still not sell him a beer, no matter how hard he pleads.



The mystery of the Magician's Apparatus will be revealed once you find a description of its esoteric purpose in the missing diary.



There is a way out of the castle dungeons through the sewer pipes, but also it's a bit late for the poor guy who has been slung up by the Skolds (Ouch!).



If you think the village shopkeeper seems like a very nice fellow, by taking a peek through the shop window and see what he does!

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GET SERIOUS

Nick Veitch listens to a new way of enjoying Amlga sounds.



COULD YOU TELL IF IT WAS FILTERED?

The trouble was that the musical record is that it is a very low-pass filter! This means that all the frequencies above a certain point diminish — by a breaking glass sound, and hi-hats. Because the frequency response is set you can't even adjust it. The only thing you can do is turn it off, which is also quite annoying, because then your sounds may sound like they are being generated from the bottom of a Campbell's soup can. There have been a few solutions to this problem, and the best of them is that I probably the most common — turn the filter off, get some phono leads, buy a very expensive Rotel amp with a built-in graphic equaliser (for equalising the graphics) and plug it in to the back of the Amiga

This is a good solution, but can be a bit tricky if a) you don't have pots of money or b) somebody else is using the Hi Fi to listen to Betty Boo. Perhaps the most reasonable solution then is to replace the filter by turning it off and introducing a new filter between the Amiga and the machine.

Pyramid Sound Enhancer connects, via a set of phone sockets, to the Amiga. Another set of phone leads jack out at the back of the interface which can then be plugged into whatever amplifier you are using. The unit takes its power from the serial port. It simply plugs in and has a through connector for any modems or things that you might actually want connected to the serial bus.

There are only two controls on the unit: an on/off switch and a selector control. The selector gives you the ability to change the cut off frequency of the filter. This means that you can more or less select whether to generate a more bone-thrumming bass sound or a tooth-rattling high pitch. There is only one control so the filter is more analogous to a "tone" control rather than to separate Treble and bass sliders. You won't believe the difference when you try it out.

Now not only will the neighbours be able to hear the music to your favourite game well into the night, they'll also be able to appreciate all the subtle nuances of its composition.

82%



AMIGAMANIA PROCLIPS

You don't have to own some expensive hardware to get your hands on decent quality artwork.



If you want more information, contact, Amigamania, 88 Brooklands Road, Parkstone, Kent, CT19 9JX. Each clipart set costs approximately £7, the number of disks included may vary.



PICTURE POWER

Pictures are important. They form a vital part of many pieces of work — newsletters, posters, packaging, slideshows (obviously), demos, multimedia — the list of uses for computerised images goes on and on.

Which begs the question of how you get hold of them in the first place. Well, the traditional digitiser is no longer as expensive as it once was, with units at around £100. Then there are always scanners, particularly the cheap but effective hand-scanner, also priced at around £100.

FIND THE TIME...

But these solutions still leave you with the problem of trying to find a suitable image to scan or digitise. Even then you will have to be well processed

in the use of such a system to get consistently good results, which could take some time.

The obvious answer is to get some clipart. Now the usual problem with clipart is that you still face some of the same compromises — you can't depend on getting the exact image you are looking for, only something that comes reasonably close. Well, there's not much to be done about that. The second thing is that a large number of the images will be exactly what you want but in some unsuitable format.

The Amigamania clipart disks are all categorised fairly well, with sets on such diverse subjects as wildlife and cars, with about 30 or so pictures on each disk.

SO LONG AS IT'S GREY

Each picture is a 16-colour grey high resolution image, though very few of them are full screen. The images are quite disappointingly inconsistent though. They are all obviously scanned in from a magazine or book but whilst some seem to have been done with great care, others are cropped badly and carry the tell-tale diamond patterns signifying a screen clash.

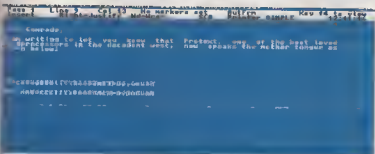
Given the price of these disks, the sets are fairly good value, but their use is limited and they are only really suitable for use in very small newsletters. But then again, after a while it is almost as cheap to buy your own hand scanner and pay a visit to the local library.



64%

PROTEXT RUSSIAN

By using Russian on your Amiga you can help some of the children affected by the Chernobyl disaster.



It might look like gobbledygook, but this is, in fact, a Cyrillic alphabet.

COMRADE ARNOR

Well Comrade, as well know what an advanced piece of word processing software Arnor's Protext is, but you probably weren't aware of exactly how clever a program it is.

The Amiga is well known for its font support, but if you happen to want a font which contains characters other than those of the standard western European languages you

will probably be out of luck. In attempt to redress matters, and also do a bit of good at the same time, CU Amiga is ed Mr. G. N. Martin has been busy updating Protext to provide a little more user-friendliness for our eastern European cousins. He has set himself the task of creating character sets for the Cyrillic alphabets of Gosl, Russian, Croatian, Serbo-Croatian and Greek languages. (The

modern Cyrillic alphabets now contain the following number of letters — Ukrainian (33), Russian (32), Bulgarian (30), and Serbian (30). The modern day Russian has also been adapted to several non-Slavic languages in the C.I.S.)

WHAT A CHARACTER

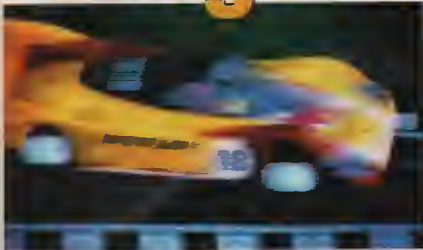
From within Protext version 5.5, the chosen character set is fully integrated, and can be displayed without side effects on-screen by means of the ALT key.

It's all very well being able to see the characters on the screen, but Mr. Martin has also managed to create a set of printer drivers which will output the characters directly to a dot matrix printer. This is no easy task, and the printers currently supported are the Sisi and Gillisan 'S' range, with limited support given to Epson and NEC printers amongst others. More printers should become supported in due time.

Mr. Martin is going to all this effort to help raise some money to bring children from the area affected by the nuclear accident in Chernobyl to England for a short stay, so if you're interested in these curious additions to Protext, or if you think you can help Mr. Martin in achieving his goal, you should contact him at 121 Deacons Avenue, Falmouth, Cornwall, TR11 2ER.

70%

image master



As Neil Kinnock discovered, there are some times when your image just isn't good enough. John Kennedy uncovers the latest version of Black Belt's 24-bit image processing suite.

The Motion Blur special effect will add movement to the most static of images.

THE SHAPE OF THINGS TO COME?

Not so long ago, the Amiga world was introduced to the concept of 'TrueColour', the principle of displaying objects using 16 million plus shades of colour, and therefore generating images which to all intents and purposes were photo-realistic. At almost exactly the same time the price tag for this privilege was revised, and unfortunately for everyone it was on the wrong side of £1000.

Lack of money has always been a close relation to the mother of invention, and several ingenious cost cutting methods of obtaining lots of colours for substantially less money appeared – one of which was the black box called HAM-E. (Another system is DCTV, but more on that later). HAM-E worked on the same principle as the normal Amiga Hold and Moddy mode, which is to say it loaded the hardware into providing a larger palette than one would normally expect. Whereas the standard Amiga HAM mode works with 12-bit colour (4096 shades), HAM-E was capable of 18 or 24 bit colour: TrueColour on a budget had arrived. A strange twist in the fortunes of HAM-E

has meant that you will actually have great difficulty in getting hold of one these days, but there will be plenty of them about nevertheless. (And if you don't know what I'm talking about, you obviously haven't been following our news section.)

MASTERING YOUR IMAGES

The problem with having 24-bit colour displays is that it's not easy to find a program to make the most of it. *Deluxe Paint* will work with HAM mode, but that's only 4096 colours – not the 16,777,216 which 24-bit images use.

Black Belt realised this, and gave HAM-E owners a program called 'Image Professional'. This program is also available to non-HAM-E owners, and also to owners of the FireCracker 24-bit board in the form of *Image Master*. The difference is, we have to pay for it.

Image Master, or *Image Master Ftc*, is a fully featured 24-bit image processing suite. It provides more features than you might even use, and it's probably the most advanced graphics program to appear on a home computer – even.

Before you can run *Image Master*, you'll need

to make sure your Amiga has some extra memory under the bonnet! At least 3Mb, and preferably much more, will be needed to let your imagination even begin to walk riot, never mind run. Furthermore, some kind of turbo-charging in the form of an accelerator card would not be a bad idea. Incidentally, buying an accelerator card and then populating it with 32 bit wide super-fast RAM is an extremely intelligent thing to do, as not only will it probably cost less than buying normal fast RAM, but it will make your Amiga go a heck of a lot quicker too. A version of *Image Master* is available to take advantage of the melms co-processors which most accelerator cards support. If almost, but obviously not quite, goes without saying that a hard drive will make the prospect of storing those rather large 24-bit image files a lot more attractive.

Image Master has been constantly updated since its conception, and the version reviewed here is tentatively called 'Version 9, Revision 13'. Having your software constantly improved is a terribly Good Thing, but unfortunately also means that the manual is always out of date. The disk on which the review copy was supplied came with a

The intelligent warping features can generate Amish faces as well as pure 24 bit images. With 2000, you can achieve much more impressive results than those.



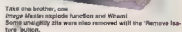
ALL SYSTEMS GO

Assuming this image file is kosher, it will be loaded and, if need-be, expanded to become a 24-bit file. Eventually it will be displayed and the reasonable, but slow, HAM representation mode is usually the best display method to view the result. Various dithering methods are used to give the best possible display, but I found that I couldn't switch them totally off. For example, a snapshot of the Workbench saved as an IFF appears with dithering, even when displayed in 4-colour Hi-Res mode – very strange. Also annoying is Image Master's habit of grabbing control in a minute after the image has been loaded, so I write this text on *Cygnus Ed* with Image Master running in the background, my cursor is occasionally taken from me as Image Master makes itself active after some background processing.

FUN TIME

image Master is not limited to one image at a time. In fact, you can have as many images pre-

Composing images actually refers to the process of merging or blending two images into a composite. You might think this is a pretty straightforward task, but *Image Master* provides so many different options that at first you will be spoilt for choice. One of my favourites is a "rub through", which allows one image to overlay a section of the other. If the images are complicated, drawing an outline will exactly indicate the area to blend. With the automatic shadow function enabled you can achieve some very pleasing pictures. For exact control over blending, a brush can contain information which can be used to alter the depth of blending over the entire image.



Also in this composition section is a "morph" feature, which could fill an entire magazine article in itself. Forget the rather useless morphing features of *Deluxe Paint 4*—this morphing is more along the lines of the effects seen in the film "Terminator 2." Before the morphing begins, you must specify positions common to both images; for example, if you are producing a morph sequence between two faces, you would set points around the eyes, nose, mouth and ears. When the images blend, the face smoothly "evolves" over the frames. It's quite an amazing effect, although for a long animated sequence an accelerated Amiga or long overseas holiday is a must.

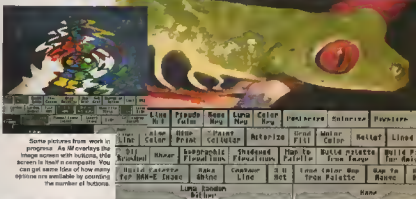


Image Master v3



Some of the coolest image processing features ever invented are yours to experiment with. In this case, a quick mirror and go with the contours' function.

DUE PROCESS

Image processing is what it's all about, and *Image Master* has the usual collection of high pass, low pass, convolution and noise filters. The part of the screen which is to be processed can be easily selected—it is not the entire image or some other regular shape, you can draw an outline yourself to form a mask. Masks can be saved and loaded, so once you've got it right you won't need to redraw them more than once.

All the regular image processes you could require are provided, and should you want one that isn't, there's always the possibility of writing your own. ARexx programmers—which we should all be by now—will have a field day, as all functions are completely accessible. One task I had set myself meant to increase the contrast of an image as a function of its depth: the further down the image, the less contrast. This was done within a few minutes with a simple ARexx script



"Some is similar to painting an image on a button and mixing it up. Ours is to look what would happen if it burst."

```

/* ARexx macro to alter contrast depending on y position */
message "Ready to start"
Message to user
clearwindow 0
con=100
y=0
do 100
  rect 0 y 319 y+2
  contrast con
  y=y+2
  con=con+2
loopend
statusbarrow 1
infowindow
  
```

Only redraw image at end of processing
Initial y=ordinate
For each line at the display
Select the area to process
Process it
Move down image
Add contrast
End loop
Redraw image
Stop

RATHER SPECIAL EFFECTS

The special and geometric effects provided by *Image Master* are truly amazing, easily as good as, or better than, other systems such as the Mac's PhotoShop.

At last I can see what happens if I drop a small sphere into a picture projected onto water, or perform optical experiments involving prisms or

even motion blur. There are too many effects to list in detail, so I hope the example pictures will give you a taste of what's possible. Remember that the effects can be applied to multiple frames if required, so the ripples caused by a dropped stone can spread out overtime.

PAINT FUNCTIONS - CAN YOU TELL WHAT IT IS YET?

Image Master's painting section is a tad disappointing, for it is far from being a variation of TV Paint, not even a 24-bit Deluxe Paint. Painting is possible with a brush either created previously or lifted directly from the displayed image. Freehand line drawing is possible, although the screen refresh rate means it is not an instantaneous process. Amiga fonts (bimapped and scalable) may be added to the image, and with the various graduated fill options you can add some really snazzy sub-effects. The paint section isn't below standard by any means—how many 24-bit paint programs do you have, anyway?—it's simply that the other functions are so powerful that a non-instant painting program looks a trifle drab by comparison.

EXPANSION

As I kept hinting at before, expanding the functions provided by *Image Master* is a relatively painless task. By running use of the ARexx interface, separate program modules, called Public Interface modules in Black Bell speak, can be invoked at any time by listing a function key. Assuming of course that you have ARexx already running—Workbench 2 will do this as standard, Workbench 1.3 stalwarts will have to buy either ARexx or the full upgrade to WB2.

The usual approach is to call-up a list of the ARexx modules, select one and stand back. Supplied PI modules include JPEGs and *Image Master* image format loaders and savers, animation support files, Viste support files, PMBO and Rendition loaders and savers, Targa savers, and support files for the GVP, Harque, Resolver and FireCracker video boards. Quite a lot really!

For programmers, C source code example files are provided, and I suspect that writing your own modules—for example, to provide support for the new AVideo 24-bit board—shouldn't be that difficult. Furthermore, if you can't manage it yourself, you can count on someone else doing it for you soon.

The PI modules might not have the same degree of immediacy and integration as say, ASDG's Loaders and Savers, but they have their advantages. If you can program, you can write your own, and any new ones which do appear will probably be public domain.

FANATICS

Image Master's especially likeable when it comes to differing hardware standards. This is partly due to the PI modules, but several features have already been 'built in'. For example, you can digitise images with DigView directly into a buffer, to save much time and sanity. If only all hardware manufacturers would add ARexx interfaces to their digitisers. Support is also given for loading DCTV images, but Black Bell's almost fanatical dislike for this rival system is hard to disguise.

CONCLUSION

It is about time that the Amiga received the graphic software it deserves, and *Image Master* is a program that will be with us for many years to come. It's working with computer graphics is your job or simply your hobby, then this is one piece of software that you can't do without. You can almost guarantee that it will work with whatever hardware system you have, as long as it includes an Amiga with CMBs at Ram. It's worth buying a 24-bit board (or dare I say, a DCTV) just to see the results.



IMAGE MASTER V9

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IMAGE MASTER VERSUS ASDG'S ART DEPARTMENT PROFESSIONAL

At last some competition on the 24-bit graphic front! Both *Image Master* and *Art Department Professional* offer some very advanced features, and both will set you back a few bob. Is it really necessary to have both?

Well, no, of course I isn't. I can't deny that it would be nice to have both, because no one package is perfect at everything. For example, to me *AdPro* feels more reliable, and has better loading, saving features. Until someone writes the relevant PI modules for *Image Master*, *AdPro* will continue to have to more loading and saving options.

Image Master supports animation in much the same way as *AdPro* does—as an afterthought. Where *AdPro* has FRED (reviewed last month), *Image Master* has Film View. Both got the job done, but both are rather fiddly to use. And neither have good printed documentation at the moment!

Image Master's PI modules will offer incredible expansion, as any type of feature may be added, be it loader, saver, special effect, or even an interface to a digitiser or video board. *AdPro's* Operators, Loaders and Savers are much more fixed in their design, and cannot be written by the user.

If I had to choose between them, I would choose *Image Master*—it comes with many more effects, a more intelligent multiple image buffer system, and many more options.

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become a Railroad Tycoon, shape a Civilization or
indulge in a little Piracy in the Caribbean



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Pictures with lots of bold and bright colors usually translate very well when printed. Compare the original screen (above) with the print-out.

Unless you know your Linefeed from your Ip, this is not a printer for you. Setting up the printer

Eventually the XL300 was initialised and ready to go so I thought that I'd give it a try with some *D-Paint* graphics. After what seemed like about two weeks (but was actually more like ten minutes) of waiting I was presented with my first piping hot A4 screen dump. Hmm, rather gloomy and not worth



The subject matter can make a great deal of difference to the final print out. Very detailed or digitized images tend to print the best as you can see from Hewlett-Packard's 24-bit pen plot-out.

XL300

cently better than the old PaintJet. Then I realised my mistake — the XL300 can print on four types of paper: plain photocopy paper, special coated paper, glossy paper or transparencies. However, it uses different saturations of ink according to the paper it's printing on and you need to specify the type before you start. I hadn't and did a plain print on glossy paper. One sheet of paper in the bin, one pound wasted.

Why a pound? Well the glossy paper is rather expensive. 90 pence a sheet to be precise. When you add that to the cost of the ink you come up with just under one pound per full colour A4 page. Not cheap in anyone's books. Okay, ready for try number two. Glossy paper. In paper type specified, away we go. Ten minutes later... mm... rather gloomy and skewed on the page. Oops, wrong side of the paper. Try again and to tell my first decimal picture, and what a picture it was: colours solid and close to those on the screen, ink placement perfect with no smears or bleed. Very encouraging indeed.

GETTING IT TOGETHER

Thirty assorted prints later and I feel that I've gained complete mastery over the beast. It's easy to use, excellent, fast and away the best colour printer I've ever seen running off an Amiga. On glossy paper and transparencies, the output is near photographic in quality. On HP plain coated paper, or ordinary photocopy paper, the output is quite dark and not overly impressive, although it's more than adequate for preliminary drafts, or non-professional use. The choice of image to be printed can make a big difference too: when printing digitised pictures or art that has a lot of detail, the results are truly superb. When it comes to printing simplistic images with a lot of white space in them, the results are not quite as spectacular.

Incidentally, despite the fact that the printer has two megs of RAM on board (upgradable to 16 megs), almost every screen I printed had to be done in two halves. Having clicked Paint from D-Paint, half of the image was sent to the printer, then a requester appeared on screen saying that there was printer trouble. If the printer is left to output the half screen that's already uploaded, clicking Retry prints the remaining half of the screen perfectly. I suspect that this is because all images are converted to its own internal 24-bit format before printing.

HOW DOES IT WORK?

At this point I should just mention the way that the printer works. It is primarily a bubble jet machine like the Canon BJ series and therefore it places the image on the paper by squirting little blobs of ink at the page. Where it differs from a conventional bubble jet is in the way that it uses a high temperature fusing process to dry and 'lock' the ink onto the paper. This stops the ink from smearing and even bleeding, so that the pixels of ink can be positioned with much higher accuracy than conventional bubble jets.

Although the XL300 only has a resolution of 300 DPI (equivalent to an average laser printer, but lower than the Canon BJ series), its printed output is much sharper than you would expect. To be honest its colour mixing is not that sophisticated and non primary colours are still achieved by mixing primaries in a variety of different patterns. The only reason it is able to offer such a high

palette is the extreme accuracy of its ink positioning on the paper.

In case you're wondering, the XL300 does print ordinary text as well as graphics. It has a maximum print speed of two pages per minute — equivalent to a rate of 176 characters per second. When it comes to printing single pages of text the printer doesn't even come close to this speed because even once it is initialised, the printer has quite a lengthy job set and form feed process to go through before it begins printing. Strangely enough, text printing is the XL300's greatest weakness.

The default font looks similar to that of the Bu-10e, but each character is surrounded by what appears to be a corona of fine ink dots, almost as if the ink splashed off the paper when it was printing. On the subject of text printing, the XL300 is compatible with the LaserJet 3 and will accept toner cartridges designed for that printer. Furthermore, it's supplied with 13 scalable typesets including Times, Univers and Zepi Dingbats. These ensure that no matter how large or small you print text, it will always appear at the best possible quality (ink splashes aside). It also features PCL 5C, a page description language which gives immediate versatility. Unfortunately there are no Amiga programs which can directly access PCL 5C, so it's rather redundant.

CONCLUSION

The XL300 is a truly superb printer which seems to have been designed with professional creative users — marketing people, designers, that kind of thing — in mind. As a home machine, its £3000 price tag puts it well beyond the scope of most users, although perhaps a group of artistically minded people could buy one between them. There's no doubt that it produces the best Amiga prints I've ever seen, but the high cost of glossy

paper makes it impractical for daily use. It's a pity that the machine has been geared so totally towards PC and Mac users because with suitable drivers the XL300 is the answer to an Amiga artist's dream. If you ever find yourself with a few thousand pounds knocking around, you could consider this, but remember, running the XL300 is a continual expense.

XL300

...a glance

- 24-bit colour printer • Needs expensive paper for optimum results • Slow and noisy • Includes 13 scalable fonts • Uses PCL 5C page description language • Excellent printed results on suitable paper • Fast printing at 180 dots per inch • Upgradable memory and fonts.

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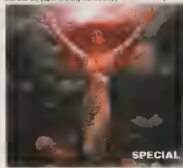


ORIGINAL



GLOSSY

As you can see by these print-outs, there is a noticeable difference when printing on different types of paper. When using plain paper, the results are passable, but a little washed out and grainy looking. On HP's special paper, the printouts are fully detailed but rather dark. At 88 pence per sheet, glossy paper gives superb results and although you cannot tell from this picture, the more text that the paper is shiny makes it appear much more professional. Compare these against the original screen (top left).



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
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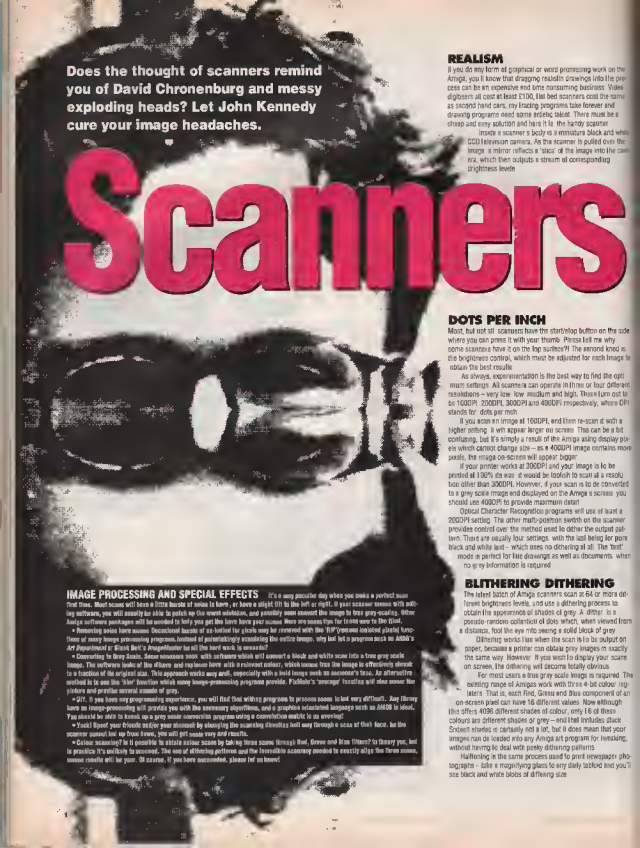
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A serious PC experience



Does the thought of scanners remind you of David Cronenberg and messy exploding heads? Let John Kennedy cure your image headaches.

Scanners

REALISM

If you do any form of graphical or word processing work on the Amiga, you'll know that dragging realistic drawings into the process can be an expensive and time-consuming business. Video digitizers all cost at least £100, but bed scanners cost the same as second-hand cars, ray-tracing programs take forever and drawing programs need some artistic talent. There must be a cheap and easy solution and here it is: the handy scanner.

Inside a scanner's body is a miniature black and white CCD television camera. As the scanner is pulled over the image, a mirror reflects a 'slice' of the image into the camera, which then outputs a stream of corresponding brightness levels.

DOTS PER INCH

Most, but not all, scanners have the start/stop button on the side where you can press it with your thumb. Please let me why some scanners have it on the top surface? The second knob is the brightness control, which must be adjusted for each image to obtain the best results.

As always, experimentation is the best way to find the optimum settings. All scanners can operate in three or four different resolutions—very low, low, medium and high. These turn out to be 100DPI, 200DPI, 300DPI and 400DPI respectively, where DPI stands for dots per inch.

If you scan an image at 100DPI, and then re-scan it with a higher setting, it will appear larger on screen. This can be a bit confusing, but it's simply a result of the Amiga using display pixels which cannot change size—as a 400DPI image contains more pixels, the image on-screen will appear bigger.

If your printer works at 300DPI and your image is to be printed at 100% of the size, it would be foolish to scan at a resolution other than 300DPI. However, if your scan is to be converted to a grey-scale image and displayed on the Amiga's screen, you should use 400DPI to provide maximum detail.

Optical Character Recognition programs will use at least a 200DPI setting. The other multi-position switch on the scanner provides control over the method used to alter the output pattern. There are usually four settings, with the last being for pure black and white text—which uses no dithering at all. The 'text' mode is perfect for text drawings as well as documents, when no grey information is required.

BLITHERING DITHERING

The latest batch of Amiga scanners scan at 64 or more different brightness levels, and use a dithering process to obtain the appearance of shades of grey. A dither is a pseudo-random collection of dots which, when viewed from a distance, fool the eye into seeing a solid block of grey.

Dithering works like when the scan is to be output on paper, because a printer can obtain grey images in exactly the same way. However, if you want to display your scans on screen, the dithering will become totally obvious.

For most users a true grey-scale image is required. The scaling range of Amiga's work with five 4-bit colour registers. That is, each Red, Green and Blue component of an on-screen pixel can have 16 different values. Now although this offers 4096 different shades of colour, only 16 of these colours are different shades of grey—and that includes black. Serious studies is certainly not a lot, but it does mean that your images can be loaded into any Amiga art program for tweaking.

Worthington is the same process used to print newspaper photographs—take a magnifying glass to any daily tabloid and you'll see black and white blobs of dithering size.

IMAGE PROCESSING AND SPECIAL EFFECTS

It's a very precise day when you make a perfect scan. First time. Most scans will have a little burst of noise in here, or have a slight tilt to the left or right. If your scanner comes with editing software, you will usually be able to patch up the worst mistakes, and possibly even convert the image to true grey-scale. Other Amiga software packages will be needed to help you get the best from your scans. Here are some tips for the most sure to the final.

Remember some have some. Occasional bursts of so-called for static may be removed with the 'FIP' (frame-injected pixel) functions of many image processing programs. Instead of painstakingly scanning the entire image, why not let a program such as ADO's Art Department or Blank Bell's ImageMaster do all the hard work for you?

Discrepancy to Grey Levels. Some scanners come with software which will convert a black and white scan into a true grey-scale image. The software looks at the dither and replaces some with a nearest colour, which means that the image is effectively altered to a fraction of the original size. This approach works very well, especially with a bold image such as someone's face. An alternative method is to use the 'dither' function which many image-processing programs provide. Fiddle's 'average' function will also smear the picture and produce several shades of grey.

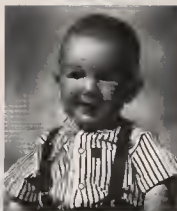
DIT. If you have any programming experience, you will find that writing programs to process scans is not very difficult. Any library here on image-processing will provide you with the necessary algorithms, and a graphics oriented language such as ADO's is ideal. You should be able to knock up a grey-scale conversion program using a couple of hours to an evening.

Track! Spend your friends on your stomach by changing the scanning device's hell any through a scan of their face, be the scanner (some) but up from focus, you will get some very nice results.

Colour scanning? It is possible to obtain colour scans by taking three scans through Red, Green and Blue filters? To theory yes, but in practice it's unlikely to succeed. The use of dithering patterns and the inevitable scanning needed to exactly align the three scans, means results will be poor. So scan, if you have succeeded, please let us know!



This is a grayscale image output from the Migraph Touch Up software from an original at 400dpi.



Using photo mode at 300dpi can produce some respectable results.

The Touch Up software included with the Nakscha scanner is also bundled with the well-known ArtScan and may be appearing with other hardware soon.



NAKSHA SCANNER

The Nakscha is a good looking and sturdy unit. The body of the scanner seems to be a bit wider than is really necessary, which means it isn't quite as easy to hold as other scanners. Furthermore, the starting button is on the top. The arrangement means that it is quite easy to accidentally alter the brightness setting when scanning.

The interface which is needed to drive the Nakscha is a small cartridge that connects to the 66-pin expansion slot. It has a through port. At first I simply didn't believe that anyone would attempt such a thing - if your hardware doesn't have a through port (and very few do), you are going to have problems. Apart from anything else, if you upgrade your Amiga to an A600, A2860, or to the latest new models, you will need a new interface. The manual states that if you have any expansion RAM then it should be limited to 640K. In the product.

This means you can have a whole 192K on an A500 - just enough for anything other than a very small case to cause a 'no memory' alert. Since this was totally unacceptable, I tried using an auto-configuring 2MB 500K Super memory expansion. Thankfully this worked, permitting some suitably sized scans, but if I had bought an official Commodore A500 hard drive and used it to expand my memory, I would have been stuck. A500Pins owners will have slightly more luck, as they can have 2MB on board - although no reference is made to this in the manual. Since the manual constantly advises you to obtain a hard drive and have at least 2MB of RAM, someone at Nakscha should consider giving the interface a through port.

After the ordeal of connecting the scanner, I was suddenly faced with the scanning software, supplied to Nakscha by Migraph Inc. Is it possible for a piece of software to be too good? Touch-Up certainly gets closer, but it's certainly a most comprehensive package.

It's definitely a pixel program with a scanning option, rather than a scanning program with a pixel option. At times it can easily out-perform Deluxe Paint, and importantly, it also creates some excellent grey scale images - which can be saved out in IFF or TIFF format for inclusion in most DTP packages.

Touch-Up is worth buying separately if you have any other make of scanner, just so you can load in images and process them properly. The images produced by the Nakscha were excellent, even at 400DPI which has been known to cause random bursts of noise on some scanners.

For some reason there is no warning if you scan too fast - the image simply becomes squeaked on-screen. I have to wonder if the high image quality is due to the expansion canceler being used instead of the parallel port. With the large amount of brightness levels possible, it seems likely that the poor parallel port would be unable to cope. If you have a hardware solution that can accommodate the Nakscha interface, you should strongly consider this scanner.



Test mode is ideal for scanning artwork, which doesn't use greyscale. Scanned on Pyramid scanner at 100dpi.

PYRAMID SCANNER

The first thing I noticed about the Pyramid scanner was the sensible interface - it's a small box that connects to the printer port via a short cable. Your printer plugs into the interface box's through-port, and scanning or previewing modes are selected with a toggle switch. Common sense at last! The Pyramid scanner seems slightly less solid than the Nakscha, but offers an extra (100DPI) scanning resolution.

When you move the scanner too fast it goes 'bleep'. The Pyramid Scan software supplied is basic to say the least, with no editing facilities available. If you wish to crop, rotate or re-draw the image you'll have to save it out and re-load it into a paint program such as Deluxe Paint - or Touch-Up if you are lucky enough to own it.

Running Pyramid Scan on Workbench 2 produced an inverted colour scheme. A real-time display of the scanned data is provided. In use, the Pyramid scanner's lower grey scale resolution is quite apparent, although the use of halftones gives quite respectable results especially when printed.

For some folks, the use of halftones might be preferable to others, but in my opinion the results from scanning photographs were not as good as with the Nakscha unit.

Overall, despite its low price and friendly user interface, the below par image quality of the Pyramid means that spending the extra cash may be worth it in the long run.

PYRAMID

...at a glance

- Pyramid Scan software • Parallel interface • 32 Brightness levels • Scanning resolutions: 100, 200, 300, 400 DPI • Three photo halftones • Inverted mode

ADDRESS: BOC, Boston Ltd., Unit 11, Bentley Hall Trading Estate, Beech Hill, Wigan, WMB 83D, Tel: 0527423265

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NAKSHA

...at a glance

- A500 Scanners only • Migraph Touch-Up software • 64 Brightness levels • Scanning resolutions: 200,300,400 DPI • Three photo modes • Inverted mode • Expansion slot

ADDRESS: OPCS: NAKSHA U.K. Ltd., 20 The Arcade, Worthington, WMB 83D, Tel: 0527423265

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Memberships

A530 Turbo

Mat Broomfield takes the lid off what is touted to be the ultimate Amiga add-on.



The GVP A530 Turbo may look like just another hard disk interface, but the large exterior conceals the power to turn an A500 into a high-powered workstation.

HARD ACT TO FOLLOW

Since its release nearly two years ago, the GVP Series 2 hard drive has proven itself to be the ultimate drive for A500 owners. Its combination of sleek looks, blistering speed, user-friendliness and all-round upgradability have consistently won it top notch reviews in every Amiga publication. Now, a new drive has arrived, and luckily, it leaves the Series 2 in the dust.

When the Series 2 was originally released, its documentation mentioned that a 68030 accelerator card could be added to it via its mini-slot (internal expansion port). After trying in vain to produce such an add-on, GVP set about designing a whole new drive in which to house the 68030.

The result is the A530 Turbo, a masterpiece of engineering!

NEW KID IN TOWN

The unit looks much the same as the old Series 2, although the details have now been switched for a snazzy embossed logo, and an extra LED has been added beside the disk light to show the status of the accelerator.

If you take a closer look you'll notice that the Game Switch of the Series 2 has been replaced with a Turbo switch. On the Series 2, the Game Switch was used to make the drive 'invisible' to the Amiga's operating system (thereby ensuring absolute compatibility with any software that might object to the drive). The Turbo switch performs the same function on the A530, but because its 32-bit RAM and (optional) 68682 maths co-processor are integral parts of the drive (they also become inactive when the drive is in Turbo mode). Any RAM that you have added to your Amiga internally will still be available, so trap-door and Gary chip expansions are both unaffected, as is any chip RAM. To be honest, I considered this a little irritating at first, but I soon realised that there weren't any programs I could think of that conflict with the accel-

erator but require more than a megabyte of memory. In the great majority of cases, software that won't run with the accelerator is limited to games.

UNDER THE LID

If you open the A530 up (as you must do to fit additional RAM or a maths chip), you may notice a significant difference in its internal architecture. Even though GVP uses VLSI (Very Large Scale Integration) technology in their hardware anyway, everything has had to be greatly compressed to make room for this acceleration circuitry. Whereas the Series 2 had four SIMM slots for adding memory in one or four megabyte chunks, the A530 only has two. The maximum RAM capacity of the drive remains at eight megs, but a little flexibility has been lost. With the Series 2 you could add two or four megs of RAM using one meg SIMMs or eight megabytes using two four meg SIMMs. Now you can only add two megabytes of RAM in one meg SIMMs or eight megabytes using four meg modules.

At first glance, this seems to be quite a bad thing, but in fact, it's a blessing in disguise. When the Series 2 was in its early days, four meg SIMMs were incredibly expensive, persuading many users to upgrade using the one meg chips. Unfortunately, to upgrade to a full eight megs you had to use four meg chips. If you subsequently decided to upgrade to eight megs after having bought any one meg SIMMs, you had to bin them, and buy entirely new chips.

Now, with four meg SIMMs costing as little as a £107, A530 users are virtually compelled to buy these in the first place. Furthermore, these aren't your bog standard 16-bit SIMMs we're talking about, oh no! These are 32-bit modules which work faster than the Amiga's own internal ROM chips!

It is ironic then that the drive comes supplied with a single one meg SIMM. Although it is a nice thought on GVP's behalf, I think that they should have either included a single four meg SIMM or not included any rather than lead people in the wrong direction.

Behind the SIMM slots sits the half height drive and beneath that lurks the accelerator card. The Accelerator is a 68EC030 which means that you can plug in an additional maths co-processor if you require it. On its own the accelerator runs at 40MHz - which in purely mathematical terms makes it about 5.17 times faster than a standard A500, and about 1.6 times faster than an A5000. However, the average speed at which your computer will run is determined by a range of factors from the application being used to the amount of RAM available. When I ran Sys Info it said that the accelerator was running 11.17 times faster than an A500 and 1.32 times faster than a 25MHz A3000. To get a more realistic impression of how this affects different software, refer to the speed comparison chart at the end of this review.

If you're using a lot of maths intensive software such as ray tracers, vector or fractal generators, etc, you may find it useful to buy the additional 68682 maths co-processor (co-pro) which plugs into the accelerator board.

To fit the maths co-pro, its actual hard drive needs to be unscrewed. This is a simple enough operation, but extra care should be taken at this stage as it's potentially very easy to damage either the drive or the chip. Although the chip has more legs than a millipede (it slides quite easily into its slot at the back of the accelerator).

At the right of the drive there is a multi-pin male expansion bus which GVP have dubbed the 'mmio slot'. This unscrewing terminal is actually designed so that you can add further peripherals internally. At present the only compatible peripheral is GVP's own 286 PC emulator.

QUICK START

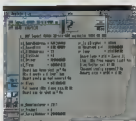
Once additional memory, peripherals and co-processors have been added (it takes which won't take more than a minute or so), screw the lid back on and the drive is ready to connect to the Amiga. Of course, if



Inserting a 68682 into nearly 10 times faster with the GVP Turbo drive, but the addition of a maths co-processor makes only an extra 5% difference.



The 5000 will not speed up blitter operations, hence only a six-fold speed increase when using Vista in HAM mode.



The software provided with the drive should give you every test and tool you could possibly need.



you don't want to add anything internally, the drive's ready to go as soon as you take it out of its box.

Like the Series 2, the A530 plugs into the expansion port at the left-hand side of the computer. Because of strict American regulations governing electrical emissions, the connection between the drive and the computer has to be shielded with a metal plate. On the Series 2, this was provided by way of a separate chunk of metal that had to be clipped onto the Amiga before connecting the drive. On some Amigas, space was so limited that users inadvertently plugged the drive in so that it was touching the main circuit board, and consequently blew their computers up. The A530 avoids this problem by incorporating the shielding directly into the drive, so connecting drive to computer is merely a matter of pushing the two connectors together.

When everything's ready to go you'll notice another new feature regarding the drive's power supply: it no longer includes an on/off switch. This is because the drive automatically switches itself on when the Amiga is turned on. Having turned the computer on, the drive will automatically configure itself according to which version of Kickstart - 1.3 or 2.0 - you are using. 1.2 owners are out of luck because the A530 will definitely not work with your machine. But isn't it about time you upgraded your Amiga anyway?

USER-FRIENDLY

After a brief moment a screen appears asking you to confirm which version Amiga you are using. When you have answered the drive proceeds to install an appropriate Workbench and numerous GVP utilities on the drive. This auto-installation program really is exceptionally nice because it means that even beginners can start using and filing their drive within minutes of switching it on.

When the installation is complete the Workbench screen will appear. From there on, when you do it up to you. The accelerator is turned on by default as is the maths co-processor (if you've fitted one).

A quick wander round the GVP Workbench will reveal that in addition to the usual utilities, there's also a separate driver labelled 'GVP'. This driver contains a host of utilities to help you get the very most from your new drive. The most immediately useful of

these utilities is called GVPInfo, and as its name suggests, it provides comprehensive information about your current set-up, including processors, RAM, accelerators etc.

At its simplest the program can be used to check that everything is in place and working correctly but it also goes far beyond that by giving comprehensive information for the most demanding of users. Every conceivable scrap of information is available, ranging from the location of the boards, to address modes and the way that memory is handled.

GVPCPUControl is a program which simply lets you turn off the accelerator and return control to the Amiga's 68000 processors. When you select this program the Amiga will be reset and when the drive re-boots you'll be in 68000 mode. This is simply a software version of the Turbo switch, and performs exactly the same function.

ROM CACHE

If you launch the CPU control program from GUI or include it as part of your startup-sequence, it also performs an invaluable additional function: ROM caching. Because the drive uses 32 bit RAM, as opposed to the much slower 16-bit variety found in your Amiga, it's much faster to access system ROM routines stored in the A530's memory than it is to read them from the Amiga's internal chips. The system ROMs influence virtually every feature of the Amiga's operation, so using ROM caching can make a major difference. When this feature is activated, all of the Amiga's system ROMs are copied into 32-bit RAM and are subsequently accessed from there. Be warned however you will need at least two megs of RAM to use this feature.

For real power users the SCSI control program is likely to come in handy. This allows you to customise the ID numbers and configurations of any units connected to the SCSI port at the back of the drive. This is particularly useful because it lets you add such things as tape streamers, optical drives or even another hard drive. Up to six extra SCSI devices can be attached to the A530.

The remaining programs, FastProp and ExpertProp, let you reformat or repartition the drive if you require a set-up other than the default. To be hon-

est, you're unlikely to need FastProp as it performs a very basic installation, but experienced users may appreciate ExpertProp which lets them configure the drive with extreme precision, setting such options as the high and low cylinder numbers, the type of file system to be used on each, and so on.

As a matter of interest, the A530 also includes the latest version of FastROM which unbelievably speeds drive access up by as much as 33%. Considering the fact that the original Series 2 was lightning fast, this extra speed is like adding a turbo to a Formula One car.

CONCLUSION

The A530 is definitely the most exciting Amiga peripheral I have ever had the pleasure of reviewing. It transforms a humble A500 into a high powered work station that's superior in some ways to the revered Amiga 3000s. The manuals that come with the drive are all but redundant due to its user-friendliness, but should you care to read them, you'll find them to be both comprehensive and easy to digest.

Initially it looked like the drive might score an unearned 100% but these are a less extremely minor shortfalls: The help feature in GVPInfo is not implemented, the fan is a tad noisy, the restrictive memory upgrade path is annoying and the fact that the drive can't be turned off whilst leaving the computer on is a hindrance.

I liked the A530 so much that I bought one (some back Victor Kanyyam) the day it was released. Now a fortnight later, I'm happier with it than ever. I can give no higher recommendation...

A530 TURBO

...at a glance

- Comes in 32, 120 and 240MB capacities
- Includes an FC000 accelerator • Adds up to eight megabytes of 32 bit RAM (optional 68010 maths co-processor, SCSI throughput) • Price: £799

Address Book: Currently, the A530 is only available in 120MB capacity and it costs £726. The maths co-processor costs £226. They are available from Billie Systems, 1-4 The Manor, Hatherly Road, Woking, East. Tel: 041 389 1111.

SILICA £799

Transforms a humble A500 into a high powered work station.

EASE OF USE	99%
VALUE FOR MONEY	97%
EFFECTIVENESS	98%
FLEXIBILITY	96%
INNOVATION	95%

OVERALL 97%

SPEED TRIALS

Vista - To render a HAM mode screen in low resolution.

68EC030

68882

68000

23.5secs

23.5

146

Mandelbrot - To render the Mandelbrot 'bug' in high res.

25

24.5

223

D-Paint 4 - To perform a dithered full-screen fill in low res.

195

195

282

Powerpacker - To crunch a 51.5K file with medium efficiency.

4

(crashed)

25

InterWord - To count all words in a 27000 word document.

11

8

23

Which computer(s), if any, do you own? D1A

miniOffice

David Ward examines the fiscal prospects for a pound saving business package.

EVERYWHERE AT LAST

There have been versions of miniOffice for practically every popular home computer since the Sinclair Spectrum. The Amiga can now be added to that list. It is published by Europress software, the company that brought you AMOS.

Successful computer based entrepreneurs require at least three programs to maintain their businesses. A word processor, for threatening letters, a spreadsheet for the accounts that the Revenue are not to see, and a database to hold the low-down on clients.

miniOffice gives you all three and a Graphics module for colourful business presentations, plus a disk utility program, for moving files and data around. Unexpected, yet in retrospect rather obvious, is that the programs in this package are written in AMOS. And they go to show what a powerful language it is. The package comes on four disks, each program being accessed from a Boot disk menu screen. By clicking on the relevant icon you are then prompted to insert the appropriate disk.

The menu program is still necessary even if you are running from hard disk, as you have to tell miniOffice does not lock this important facility. A feature usually associated with databases is also to be found incorporated into the other Modules. This is a video recorder style set of buttons. They are used to move forwards and backwards through the records, documents, and accounts.

Data interchange between modules is also a prime requisite for an integrated package, and miniOffice does not lack this important facility. A feature usually associated with databases is also to be found incorporated into the other Modules. This is a video recorder style set of buttons. They are used to move forwards and backwards through the records, documents, and accounts.

WORDS

The Wordprocessor module is about as fully featured as you can get, and compares very favourably to stand alone packages of an equivalent price. Although it uses its own peculiar format to save and load text files, there is an option to load ASCII text, whether Amiga or MS DOS. ASCII text can only be saved in MS DOS format.

ASCII files can be re-formatted to fit the default page layout, but this cannot be done if you margin space have been brought closer together. Manual re-formatting is then necessary. Graphics can be included in the document, up to five of which can be operated on at any time. Individual words can be marked for rapid editing, and there is a comprehensive Search/Replace function.

Printer control codes can be embedded into the document if you want your printer to perform spe-

cial functions not handled by the Wordprocessor, such as superscript, italic, bold, and underline styles are available, and such text appears on screen correctly.

Practically every command has a keyboard short-cut. This will save the prolific from taking their pinksies off the keyboard and handling the mouse. Screen update is reasonable for the average four fingered typist, but if you use any more than that then you will experience a delay as the screen catches up.

Frequently used words and phrases can be assigned to the function keys, so that "Dear Sir" and "Yours sincerely" and "Where is your copy Jolyon?" may be added to a document with fewer keystrokes.

THE URGE TO MERGE

If you are sending the same letter to different people you can set up the document to take name and address data from the database. This is known as mail merging. The names and addresses are read from a separate file and inserted at the relevant parts of the text as it is printed.

Should your printer run into problems during printing, then the dreaded "Printer trouble" requester pops up on the Workbench screen. You cannot see this unless you flip screens as no requester appears on the Wordprocessor's page.

The file requester was a little quirky in that the drag bar for scrolling the filenames sometimes refused to work. Also, you are limited to device names d0:, d1:, etc., and Sys as easily clicked directory buttons. This is common to the file requesters of each Module.

BARNS AND PIES

By far the gem of the package is the Graphics Module. Here the data from the Spreadsheet, or the Database, can be displayed in an easy to use manner. Trends can be quickly spotted from a graph, data from masses of figures.

There are two basic types of graph, line and bar, and the module has variations on these to give 14 to choose from. There are also two types of pie chart, 2D or 3D, with options to show positive or negative data only. Segments of the chart can be exploded to highlight particular areas. Legends can be added in a variety of colours and styles quickly and simply.

There is also a facility to load in an RFF picture as a background to any chart.

The y axis of a graph can be manually or automatically defined. Manual control gives you the chance to create graphs that display a range with negative to positive y values. The results are printed out, or saved to disk or to IFF files. These can then be loaded into DeluxePaint for further refinement.



Fields can be sorted high to low, or vice versa, separately or combined. They are chosen from the scrolling menu.



Simple 3D — Although the disk utility program appears limited in its capabilities, there is powerful pattern matching available.

miniOffice

The odd characters that your Amiga has hidden away in its keyboard, like the Yen equivalent of the pound sign, can be put into your document by selecting them from a scrolling bar that appears at the bottom of the screen – very handy if you don't have a very good memory for triple key combinations.

There is limited spell checking available from a mixed English/American dictionary. I say limited because the word 'in' does not appear. The English 'aluminium' is marked as an error and the suggested replacement is the American 'aluminum'. Yet 'color' is not accepted, but 'through' and 'thru' are.

If there is no suggestion for a badly spelt word from the dictionary file, then you cannot edit it yourself during spell-checking. You have to come back to it later, which is a severe limitation.

BASES LOADED

The Database module saves and loads its data in two separate files, a template and the database data itself. Before a new database can be constructed a template has to be defined. Here the areas where the data is to appear, or fields, are arranged on screen, given a size, and whether they are text, numerals, currency, and so on.

A special feature of the database are the fields for formulas. These allow you to define fields that calculate values from numeric data entered in other parts of the database.

This is the basis of a stock control system, so this database can be used for more than just an address and telephone directory. Such data can be exported to the other modules.

If you have material from another database program, in ASCII format, then it is possible to load it into the module. A custom template must first be constructed, and any of the original's template data has to be edited out. The layout of the template can be determined by examining the file with the Wordprocessor. The editing can be done here too.

SPREADING IT ABOUT

Spreadsheets are very powerful tools. In the right hands, and, being left-handed myself, I was unable to test out some of its more complex formulae. This is not to say it is not simple to use, it is, but the module here features the world's only Chief Accountant of the Abbey National, as well as the home businessman.

A spreadsheet consists of a gridwork of cells, in which text (or files), numeric data, and formulae

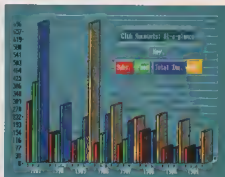


30 buttons abound and the printer options panel is no exception.

Graphs can be combined with GPs to impress friends and relatives or angry shareholders.



Negative values can be displayed in brackets following accountancy practice, and in red for year-on-year comparison.



Colorful 3D graphs are what today's bank managers want to see. Impress them with miniOffice's Graphics mode.



All in all, miniOffice represents tremendous value for money.

are entered. Each cell is located on the grid by a row number and column letter, so that the top left most cell is A1, the one below is A2, and the one to the right of that is B2. To make life easier when building up a large spreadsheet, it is possible to cut and paste rows and columns to other places. This saves a lot of typing. If you make a mistake then there is an undo function, and also the chance to insert

extra rows or columns if you've left one out. There is a Search/Replace facility, but there is a limit to which characters you can enter. For instance, say you had a column of formulae which you mistakenly entered as =AxB, where x is the row number. You cannot replace the 'x' by using the Search/Replace, it will not accept the 'x' sign. The '+' is allowed, but any formulae so changed becomes a bit of a mess.

The manual supplied with the package is over 200 pages. It is well illustrated and easy to follow, with each module explained by means of a tutorial and ready-made examples, plus a reference section. Why do they insist that a disk is a disc? I felt that the spreadsheet could have done with a little more explanation with regard to the formulae, but overall the manual is well thought out and conveys its concepts efficiently.

MINIOFFICE

...at a glance...

- Database • Wordprocessor • Spreadsheet • Graphics module • ASCII support • writers in Amos • Interpress compatible • 200 pages manual

Address: European Software, Triton House, Adlington Park, Macclesfield, Cheshire, Tel: 0625 854338

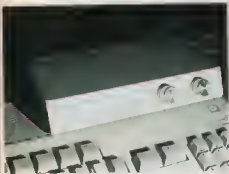
EUROPRESS £59.99

a respectable package for the home business owner to possess

EASE OF USE	88%
VALUE FOR MONEY	90%
EFFECTIVENESS	80%
FLEXIBILITY	87%
INNOVATION	81%

OVERALL 86%

Rocgen Plus



The Rocgen Plus, probably the best value genlock available for the Amiga.

Stephen McGill synchronises himself with the best budget genlock money can buy.

AMIGA POWER

One of the most useful peripherals which demonstrates without question the power and flexibility of the Amiga has to be the genlock.

By now, most Amiga users will know what a genlock is — a device to allow the synchronisation of a video source with Amiga generated graphics. This enables you to do tasks such as basic tiling, captioning, etc. Adventurous interactive graphic effects can also be realised when more hands-on experience is gained.

Until recently, budget genlocks have only offered the simplest overlaying ('keying') technique to the budding DTVer. That is to say they accept composite input into the Amiga, display video over the default background colour (colour 0) and then provide composite output of the mixed video and computer graphics. The Rocgen Plus allows more flexibility than the basic budget set up.

CONNECTIONS

Extra features start with the powering of the device. It draws power from the Amiga itself or alternatively can be powered by an external 12 Volt transformer. This is particularly handy if you've got a stack of peripherals attached to an already overloaded Amiga and power supply.

The genlock is housed in an attractively styled beige metal box, let's say colour coordinated, and sports a generous length of sturdy cable enabling it to be situated wherever is most convenient — probably on top of the Amiga itself. The lead puts an end to ZX81 style 'kludges' hanging from the back of the computer waiting to explode if the set up gets inadvertently moved.

The front of the genlock houses two small LEDs. One informs you that the device has powered up, the other lets you know that a live video source is connected. To the right of the LED indicators are two rotary knobs, labelled 'Amiga' and 'Video' respectively. These are for dissolve effects. A lot of fun can be had from playing about with the different combinations of settings. To enable you to understand more fully what they do, here is a summary of the four extremes.

- 'Video' at 'Max' and 'Amiga' at 'Max' displays Amiga graphics overlaid onto video source — the standard fare of genlocking.
- 'Video' at 'Min' and 'Amiga' at 'Min' displays Amiga graphics in outline and fills with video source. Known as 'inverse' effect or 'keyholing' this mode is useful for binocular/super's sight type of special effects.
- 'Video' at 'Max' and 'Amiga' at 'Min' displays video source only.
- Last but not least of the combinations is 'Video' at 'Min' and 'Amiga' at 'Max'. This combination outputs Amiga graphics. Title screens and the like can be recorded to video tape using this setting.

Roctec Roctec



The Roctec unit is the world's most affordable colour separation overlay system (but you do need a genlock as well).

You'll believe a man can fly with Roctec's revolutionary video effects unit. Chris Jenkins turns the key...

CHROMAKEYING

Whether you spend £100 on the Alti Image genlock, or £780 on the Hama 280 reviewed in the last issue, you'll see that every genlock will do more or less the same thing — synchronise the video output of your Amiga and a video source, so that Amiga graphics can be superimposed over video.

But what if an affordable video peripheral could do what now is the impossible — to superimpose a video signal over a computer graphic (or another video signal)?

Genlocks work by ignoring the background colour of the Amiga's video output, and superimposing the foreground graphics onto the video signal, synchronising the scanning rates of the images so that the result is steady.

In contrast, Roctec's Roctec is a colour splitter which can be used as a video 'keying' device. Used with a genlock, Roctec can produce the sort of effect which makes Superman appear to be soaring over the skyscrapers of New York, John Kennedy appear on a computerised weather map, or a miniaturised Bill Diddie appear to clamber over gigantic plants.



Colour Separation Overlay is the name of the game — Chromakey. If you want to be informal — and the result is that your Amiga can now become the centre of a video production studio of awesome power!

SETTING UP

A complete system using the

Roctec unit, a genlock, various video sources and monitors is a bit complicated — the amount of wiring and number of different types of plug required is frightening. To make matters worse, the brief manual doesn't explain the function of three of the sockets, leaving you to figure it out from the diagrams and troubleshooting sections. Fortunately basic operation is fairly straightforward.

The Roctec is a metal-cased unit about the size of a paperback book, finished in Amiga beige. There's an external power supply, and a trailing lead which connects to the Amiga's RGB port.

An RGB through socket connects to your genlock — no doubt Roctec would recommend their RocGen or RocGen Plus, but I achieved acceptable results with an Alti Image genlock. The Roctec's video output is connected to your monitor.

On the back of the Roctec are five phone sockets: Video. It accepts the signal from your video source — VCR or camcorder — and Video through connects to the video input on your genlock. That's the basic set-up — on to more complex things later.

On the front are a power LED, four soft-touch control buttons and three knobs — one each for the Red, Green and Blue elements of the video signal. Each knob has an on/off button with an LED.

Let's assume that your video source is a camcorder pointed at an object which stands in front of a blue background. Your Amiga is displaying a background graphic generated using an Art package. Press the Chroma button on

RECORDING BOTHER

The first criticism of the Rocgen Plus starts on the note of recording Amiga graphics only. According to the manual, the Rocgen Plus generates its own internal timing pulses if an external video source is not connected. The plus point of this should be that you don't need a video source when recording only Amiga graphics to tape. Unfortunately, this seems to be only partly true. Interlacing presents problems when it comes to lock, especially smaller text, which loses detail making it unreadable. Attaching a video source extinguishes the problem.

Pausing the video source while genlocking is not recommended either – the RGB end composite displays go crazy through loss of sync. The leint hearted may even think that their equipment has given up the ghost.

Sync problems aside, another of the several useful features distinguishing the Plus from its lesser budget brethren is the inclusion of an RGB Pass-thru port. This lets you monitor computer graphics and genlocked graphics separately. Very handy if you own two monitors, one of which should accept composite input. Those of you owning a 1084 or a CM8833 can now add another reason to the list why these monitors are such good value – you can do the job of two monitors in certain circumstances.

All inputs and outputs are of the phono socket variety. A shame really, considering that BNCs are preferable due to their higher quality output and sounder construction. On the other hand most domestic VCRs and Camcorders are only equipped with phono sockets too.

THROUGH AND THRU

Enough of the petty gripes though. As well as the standard offering of composite video in and composite video out, the Rocgen Plus boasts a video

through port. This encourages monitoring of the quality of the video source signal. It is worth mentioning that without a good quality video source, genlocked graphics won't be up to scratch and you may end up blaming the genlock itself for the poor results.

There is one more input on this genlock that you won't find on other budget models, a Key-In port. This is potentially the most interesting aspect of the whole device. Intended for use with Ractec's RenKey, it opens up the world of chrome-keying at an affordable price.

The unit comes supplied with an adequate ten page manual and a demo disk. The demo is hardly worth mentioning, consisting of some colour bars, a messa movable crosshair, and a utility to write a video script from a choice of colours and fonts.

GIMME AN S

The unfortunate aspect of this genlock is the lack of provision for an S-connector – an input to enable the connection of Hi-band video equipment. In this price range though, there is not much room for complaint. If you do own Hi-band gear don't despair, you can still use the Plus. It just means that you will have to use the reduced resolution of composite video, which can still reach 330 lines.

At this point it is worth mentioning a few problems that may be encountered with the Rocgen Plus in its present incarnation. The device was designed with the Amiga 500 Plus in mind. Those with older Amigas may find a narrow strip of graphics appearing on the right hand side of their genlocked graphics, even when using maximum overscan. Correction of this involves opening up the unit and adjusting the RS variable resistor. Ractec plan to correct this in the future.

Care also has to be taken on the choice of colours for foreground and background (colour 0) graphics. If colour 0 is in direct contrast to a foreground colour such as red and blue, some disturbing fringing can occur.

of use in semi-pro or professional studios, but let's hope a high-band version is on the way.

CONCLUSION

Apart from the poor manual, Rockey is an amazing device which should revolutionise amateur video-making. Since the

Behind the scenes
Mr Piggy
thinks up on a red
background for
the video shot

Meanwhile back on the Amiga
a suitable
graphic
background
is prepared in
 Deluxe
Paint

The multi-
coloured world
where
Mr Piggy
has never
visited the
outside in
his life.

CONCLUSION

This genlock is a joy to use. Although its aspirations do not break beyond domestic use (forget industrial or broadcast work), it still performs well. Comparing it directly with the Rendule 8802 makes the Rendule look decidedly dated and unfriendly. These DTVers with a speck of creativity, imagine soon and curiosity will find that the Rocgen Plus is a Pandora's box waiting to be opened.

ROCGEN PLUS

• Keys - pass • Composite input only • Also through port • RGB through port • Cabled to Amiga rather than plugged in • 15-pin phono connectors

Address:
Silica, 1-4 The Glen, Hatherly Road, Woking, Surrey GU24 0BE.
Tel: 081 300 1115.

SILICA £119.99

Unit is excellent for normal domestic use...

EASE OF USE	88%
VALUE FOR MONEY	78%
EFFECTIVENESS	70%
FLEXIBILITY	88%
INNOVATION	85%

OVERALL 82%

only competition comes from G2 Systems' Mirage, which costs a cool £1000, there is nothing to stop Rockey from conquering the Amiga video world. Absolutely amazing value for money.

ROCTEC ROCKEY

• Video colour separation device • Compatible with any Amiga • Compatible with any low-band video equipment • Amiga-compatible genlock required • Chroma keying • Colour keying, colour splitting • Amiga RGB input and 'thru' • Video in and 'thru' • Key in and out • Splitter unit • P, G and B level controls • Chroma, Inverse, Splitter and Effect controls

Address:
The Rocking is available from First Computer Centre, Unit 8, Anson Park, East, South Bristol, Leeds LS10 5AE Tel: 0332 318444

FIRST COMPUTER £269.99

A unique video chromakey unit for use with a genlock

EASE OF USE	76%
VALUE FOR MONEY	79%
EFFECTIVENESS	90%
FLEXIBILITY	90%
INNOVATION	95%

OVERALL 91%

he port of the Rockey, press the Blue On button, turn the knob and the blue background from the video signal disappears, leaving the video object standing against the Amiga background graphics.

Activating the Red and Green parameters and adjusting the knobs allows you to sharpen the chromakey effect, or to choose a different background colour to key out. For best results the Amiga's colour zero should be close to the colour which is being keyed.

MORE TRICKS

At ten to the one to the Rockey's abilities, you can also create 'Luma keying' effects. This method eliminates portions of the video image according to their brightness rather than their colour – ideal if, for instance, you want to replace a solid blue-and-white sky with a computer-generated post-apocalyptic nightmare.

If you want to superimpose one video image over another, you use the Key In and Key Out sockets for the second signal – not that you would know this from reading the manual.

By combining different RGB settings and effects parameters, you can create all sorts of wacky video effects – normal video of computer graphics over video, 'graphic sandwich' where the composite image appears between two layers of video, 'key sandwich' where the keying image appears between computer graphics and the other video, digital alpha windows where the video image shows through as the computer graphic key windows where the signals show through a hole in the video which is the shape of the key signal – the combinations are almost endless.

Another possibility is using the Rockey with a video digitiser to frame grab colour video images. Press the Sprite button on the front, and the three components of the video signal will be routed in turn out of the Sprite socket on the back. The Sprite button's LED cycles through red, green and orange to indicate which colour component is being passed through – the LED can't produce a blue colour!

Rockey unfortunately can't cope with the higher resolution S-VHS or Hi8 signals. This means that it's unlikely to be

Vikings

Fields of Conquest

"PLUNDER & PLENTY OF PILLAGE"

£25.99

"Unlike so many of the lacklustre wargames out there Vikings has some kind of magical addictive ingredient."

AMIGA POWER

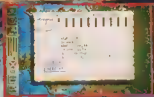


"Addictive & enjoyable battle simulation."

— JIM AMIGA

Vikings Fields of Conquest is a strategy wargame for up to six human or computer opponents. Each player assumes the role of a ruler in control of a kingdom, with nine-twenty armies to command in an attempt to conquer the entire island of Great Britain. Vikings Fields of Conquest has a rich graphics, sound effects, and a detailed presentation. Based on the tactics and strategies of the elements of an ancient wargame, this is a game for serious presentation. From its multiplatform players.

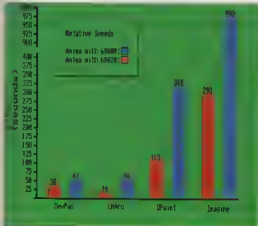
Kingdoms of England II



© Krisalis Software Ltd, 1990. Street, Masons Yard, Downs Lane, Moulgate, Rotherham, S60 2UD Tel: 0709 372291

SSL A5000

It might not be the newest accelerator around, but it's definitely the cheapest. John Kennedy discovers that once you've used it, you can't do without it. (But he still has to give it back.)



The graph shows how much the A5000 speeds up a standard Amiga. The DevPac test involved assembling a 10000 line screen file and the DPent test consisted of rotating a RAM screen by 30 degrees. The Imagine test was a core frame render, and the LWRo a typical real disk house-keeping task.

puter?" Is the question asked by nearly every Amiga owner, and at least the answer is simple: you probably can.

OH-20, OH-30, OH BOY

All pre-3000 Amigas (pre-2500 if you're reading this Stateside) come with a Motorola 68000 CPU as standard. As I'm sure you're well aware by now, this chip is a little temporarily disadvantaged (x18) and has been updated several times to the 68020, the 68030 and even the 68040. All these chips have major advantages over the 68000, not the least of which is that they are true 32-bit processors. Without getting bogged down in technical details, or to put it another way, without me reaching up to my bookshelf and getting paid for re-writing a text book, this means that the 68020/30/40 CPUs can access memory a lot faster than the 68000.

Faster memory access, combined with the internal caches and faster instruction execution rates, all make for faster programs. In fact, clocking in at 5.1 MIPS (Million Instructions Per Second) the A5000 can be said to run more than five times as fast as an average Amiga. Now before you start calculating speed-up times based on this information, you must bear in mind that the custom chips on which the Amiga relies so heavily are still 16-bit chips, bottling along at 7MHz or so. Thus, any programs which rely heavily on them—such as games, paint programs, etc.—will not automatically be sped up five times.

It's not nice, but this is the way of the Amiga world. However, if your program depends a lot on pure number-crunching, the speed-up can be remarkable. A ray tracing program is a perfect example—as you can see from the graph, an image which took five minutes on an A5000-equipped Amiga took sixteen and a half on a vanilla system. That's a speed-up of over 300%! By the way, the tests in the graph are not meant to be extensive—they merely indicate the typical reduction in time gained by me in everyday use.

By far the best improvement was with Imagine2, which is the most rendering programs is supplied with a version specially written for 68020/30/40 systems. Overnight renderers can now reach the heady limits of fifty frames!

INSTALLATION

Prior to all the speed benefits, you'll have to install the card. Fitting is the usual 'I wish this was someone else's Amiga' type of situation, but rarely as difficult as it first appears. The 68000 is prised from your motherboard with a screw-driver/brood/inner knife and inserted into the empty socket on the A5000 card. One further heart-stoppingly firm but gentle push later, and your Amiga has a new brain. It takes about 15 minutes, and 14 minutes of shots are taken up by getting off that ridiculous metal shielding on the A500.

The A5000 comes with 1Mb of RAM as standard and bus sockets for another three. The chips required to fill these gaps are rather expensive, and expanding your Amiga's memory in this way is actually cheaper than buying some dedicated RAM cards. What's more, this 32-bit RAM belongs exclusively to the A5000, so not only is it incredibly fast, but it permits your other memory expansions to co-exist—avoidably breaking the 8/16Mb limit. The 32-bit RAM is so important to the overall speed of the card that if you bought an accelerator card without any, you'd be completely bankrupt.

All A5000s also come with a 68881 co-processor, ensuring any rendering programs are running just as fast as they can. To wiring out that final increase of speed and obtain a completely hair-gelled Groove Factor Seven, you can copy the system kickstart ROM into the super-fast RAM. As ROMs are slower than RAMs, any program which uses rotation will benefit, and this feature will now work with Kickstart2 as well as original 1.2 systems. Of course, you must forfeit up to half a map of super-RAM for the privilege. And after all that brain-numbing compiling intensity, if you need to run a game which has been written by less-than-happy hacker programmers, you can fall back to using your 68000 by means of a swap program and a warm reset.

CONCLUSION

I've been lucky enough to use the A5000 for over a month in a set-up which consists of an A500Plus with a GVP series 2 drive and 2Mb of fast RAM—at least a Checkmate A1500 box. It's a pretty unique system! As stated previously, the A5000 comes with 1Mb of RAM which means my system has 4Mb of RAM in total. In the test period I have had no unexpected crashes and in fact no misheaps at all.

The A5000 has behaved perfectly, and it was only when it was removed for the purpose of producing the graph that I appreciated how slow my Amiga was without it. Definitely recommended. ■

RETRO

The August 1988 issue of a certain Amiga magazine, the name of which escapes me at the moment, ran a review of the latest product from an American hardware company called CSA. The product was an accelerator card for the Amiga 2000, and it featured a 14.4MHz Motorola 68020 processor and a 68881 maths co-processor. This previously unthought-of monster of a card came with 2Mb of RAM and cost a whopping \$2000 (\$3000 if you wanted 8Mb of RAM). The reviewer immediately went '910 rawe' mode (thus pin-pointing the current dollar trend), and started thanking it to a 200mph Ford Escort. But times change.

In these enlightened days Ford Corvairs do indeed do 200mph and saving is common, but generally it takes more than an 020 card to make us proud Amiga-people to reach for the superlatives. But before you turn the page, read this: the A5000 from SSL is more reliable than that original card, a bit faster, more flexible, and best of all costs \$295.

SPEED UP

Accelerator cards are much sought after by Amiga users for many different reasons. Any exposure to image rendering programs is an immediate cause, but even the latest in 3D games (for example, *Formula One Grand Prix*) can benefit from a turbo injection. Basically you cannot have too much speed, and perhaps even before it finds drive, this accelerator card is the peripheral to get. Well, they should be, but the prices of accelerator cards have always been just out of the reach of most folk, especially owners of A5000/500Plus systems whose machines lack the processor slot of A2000/150s.

"Why oh why oh why can't I afford a faster com-

SSL A5000

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ART GALLERY

I don't know exactly how many people will remember the old Spectrum classic Luner Jetman, nor the cartoon strip in Cresh! magazine, but that is where this fine piece of artwork is taken from. It only took Ryan Morgan of Pontypridd 4 hours to perfect this 32 colour masterpiece, and here's how...

Welcome to this month's gallery and, as Tony Hart used to say, 'what a bumper crop of entries we've had'. From the miraculously good to the seriously mediocre (you know who you are!), we've seen them all, and here's the best.

1. This is how Ryan starts all his pictures – a series of rectangles that will completely enclose the main character. This is to show the maximum space he has to work with, as there's nothing worse than spending an hour or so on the head only to find out that you haven't the room to fit in the body

2. With the basic guidelines complete, he then constructed both the head and the body. Notice how it doesn't fit the guidelines exactly, but this is really to stop the drawing from looking too 'square'.

3. The palette has now been selected, and Ryan spent some time using the HSV sliders, which he regards as being seriously underused. The hardest thing he found was getting a good flesh tone, as he didn't want to end up with something gashy

4. Here is the finished Jetman waiting to be pasted onto the dark backdrop. The two bright spots on his helmet are there to suggest that the object is rounded and transparent. The grey streaks behind his head are there so that his hairline won't be lost when the black backdrop is added.

5. To stop the picture looking too cheap, Ryan did a solid background object to pad out the image. The grey was chosen to contrast with Jetman's yellow overall, and so make him stand out.

6. The final image. The starscape was done by drawing a couple of stars in a light colour, and then stamping them down with the brush tool. See how the light spots on the helmet and the grey streaks stand out?

Who could forget the evil imagery of the Joker in *The Killing Joke* graphic novel? Just in case you forgot, here's Justin Alexander of Bradford with what he claims is his first serious attempt at Amiga art! This mini masterpiece took about six hours to complete, and shows how classic drawing techniques can be easily applied to the Amiga.



5. Stenciling out all the colours except the white, he used the airbrush for extra shadow.

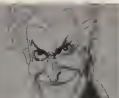
Thanks to Lee Martin of Bristol for this picture of pouting temptress Kim in a classic 'innocent kitten' pose. Drawn in 32 colour low-resolution using *Deluxe Paint IV*, this is a perfect example of how varying shades can add depth to an image.



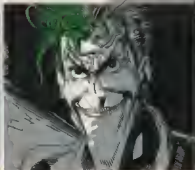
5. All of the colouring up to now has been flat colour areas. So Lee finally used the freshen fill in conjunction with a small, unchecked brush to add extra shades between areas of colour to give a smoother skin tone. Once the face was finished, he smoothed around the eyes and mouth. Then came the hair, which looks very hard, but is probably the easiest part.



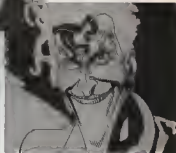
1. First Justin did a ten minute sketch using a mixture of *Deluxe Paint*'s straight, curved and freehand tools, and then used this as a base for the shapes and proportions of the face.



2. After adding more shape to the whole picture, he used the same tools to add fine details. Starting with the eyes and nose because he found it easier to perfect proportions and sizes around them. This took about one and a half hours.



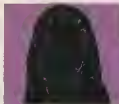
4. Two more hours and the hair was completed. He then started to colour with *Deluxe Paint*'s fill tool but soon realised that this wasn't very practical due to the small areas of detail. So, he decided to use the stencil option which proved much easier.



3. After two more hours and ten cups of tea (!) he had the local features outlined. He also added a rough outline for the hair.

ART DEPARTMENT

Remember, if you want to get your work in CU's Art Gallery, send us an *IFF* disk with the image broken down into the various stages of construction, along with a description of what's happening in each shot. Send your disk to: CU Gallery, Priority Court, 39-52 Farnham Road, London E6 3AU.



1. Lee started off with a rough stencil of the picture on clear plastic. He then stuck the plastic to the screen and traced it with the mouse.



2. Next Lee studied the picture and mixed all the colours needed. He then used the flood fill option to fill in the picture with flat colours like a cartoon character.



4. Then he started to concentrate on the important areas of the face, such as the eyes, nose and mouth. As these are generally regarded as the most recognisable parts of the human face, a lot of care needs to be taken. If these aren't done right, the face can look completely wrong. Next, he added some proper shading to the hair.



3. Working from the photograph, he started to add extra shaded areas around the face and hairline. As the picture began to really take shape, he removed the stencil lines by drawing over them with the colour immediately next to them.



This month we take a more detailed look at track editing and explain exactly what all those pop down menus do. The artistic Picasos amongst you may have wondered what some of the icons do in the edit editor. The set editor is the 'animation station' of MovieSetter and we'll be taking you through the more powerful features of creating your own animations. After all that, I guess you'll be wanting some hint and tips, eh? Cor, you're a demanding lot, aren't you?

TRACK EDITING

You can edit tracks while creating individual tracks or after it has been completed. Once you have started creating a new track you CANNOT move around the movie. Attempting to do so will force MovieSetter to automatically complete the track for you. Also, many menu options are disabled (greyed). As long as the mouse pointer is carrying around a face, you are creating a track. So take note, folks!

CREATING A NEW TRACK

You should know how to create a new track as we discussed this in last month's tutorial. Anyway, just to refresh your memory here's the method again. Take ten ounces of self-raising flour, oh, wrong method! My mistake. Try selecting New from the Track menu instead. Now, select a set from the Set Load requester and after it has loaded it will attach itself to the mouse pointer.

Placing the set on the background using the left mouse button will advance to the next frame and switches to the next face. Clicking down with the left Amiga key pressed will switch to the previous face and holding down the Alt key will not switch the faces as the frames advance. Pressing the Control key (Ctrl) and clicking will complete the track after stamping down the final frame. Please note that you can also control which face to stamp down by using the '+' and '-' keys to flip through the available faces in the selected set.

If you want the face to go off the screen (i.e. a man walking out of shot), you can shift its position

on the mouse by hitting the arrow keys. Holding down the Alt key while doing this increases the distance that the face moves. Pressing the letter 'C' on the keyboard (ignores the quotes) will return the face to its original position. Another helpful feature is the Repeat requester which will hold a face in the same place for a number of frames. Select Hold from the Track menu and enter the number of frames you want the face to stay put. Easy!

Try using the Repeat requester if you have just stamped out a track with a lens wheel which has just completed one rotation. Instead of doing it again manually, the repeat requester will repeat the same sequence from the beginning of the track to the current position. Next Shift!

The most powerful track creation tool is Guides. Guides allow automatic creation of smooth linear and elliptical paths which are affected by both velocity and acceleration. Try loading a Set and go to the Special menu and select Guides. The Guides control window will then appear. You can define a path using the 'rubber-banding' method, like the line tool in Deluxe Paint.

For a linear guide, drag out a line that you wish your track to follow. Do this by holding down the left mouse button and moving the mouse, releasing it when you've finished. You can draw another one if you mess the first one up. The elliptical guides can be rubber-banded by pressing the elliptical button. Click the mouse in the edit window and drag out an ellipse. When you release the button, you should select the starting point on the ellipse by positioning the mouse and clicking.

You may also effect the path of the guide you have rubber-banded by changing the velocity and acceleration. You can have an acceleration effect on the guide. It enters the vertical or horizontal direction at 0.0.

Once you are satisfied with the shape and spacing of your guide, there are two ways to make use of it. In the Guide Control window 'Auto' guide creation lets MovieSetter to create the specified number of frames along the guide, automatically cycling through the faces from the track's set. Press the close window button to create the track elements automatically.

Last month CU Amiga gave away Gold Disk's MovieSetter on the coverdisks. We showed you how to create your own productions using the cartoon animation from the disks and how to draw your own characters from within MovieSetter. This month, we're going to take a closer look at this marvellous program.

If you wish to have more control over the stamping of the track, select Manual. Select Close window to use the guide for the creation of your track. When you move the mouse, the current face will 'snap' to the closest point on the guide. You may turn the guide on or off by hitting 'G'. You may also create a new guide at any time.

The Shift option from the Track menu toggles an editing feature that is similar to insert/overstrike in word processors. For example, in frame 50 you are on a desert background and frame 51 the background changes to a space ship. At frame 50 you wish to add a camel walking for 30 frames. With Shift turned off, the camel would walk one frame on the desert and 29 frames in the space ship (most likely, not the desired result). With Shift turned on, all events and tracks that have not yet occurred will be delayed. In essence, you are inserting new frames as you stamp out your track. With Shift off, you only add new frames when you reach the end of the movie. Adding a track, therefore, does not necessarily increase the length of the movie.

In the unlikely event that you should make a mistake (CU readers make a mistake? Heavil!), you can back up and delete the previous track element by hitting the Backspace key on the keyboard (the delete arrow pointing left). MovieSetter will automatically update the face attached to the mouse and move backwards one frame.

EDITING AN EXISTING TRACK

Once you have completed a track you will probably want to make small adjustments to synchronise it with other tracks you have already created. For this purpose there are many tools available in the Track Edit window.

Track hold, repeat and guides may also be used as often as you like during the editing of a track. To use them, you must first select the track and then press the Track After or Insert Before buttons on the Track Edit window. Take a look at the tools and icons discussed in last month's tutorial. Last month we printed a guide explaining all the Track editing icons and said exactly what they did.



PRODUCTION MENUS

In the production screen, *MovieSetter* has many built-in features that will give you extra control over all the elements that make up your animated film. We're now going to take a look at what those menu items mean and how they can help you become a more effective movie producer.



The production menu of *MovieSetter* is not just for saving and saving your animations, but for manipulating them as well.

NEW

Erases the current production from the Amiga's memory. All of the sets and backgrounds remain in RAM, however.

CLEAR

Clears the current production from the Amiga's memory and removes all of the sets and backgrounds from RAM, so you really will be starting from the beginning.

LOAD

Loads a production from disk. A load requester will appear asking which production to load in.

INSERT

If you have created several scenes and saved them in separate productions, you can insert a pro-

duction inside an existing production. Note that the inserted production will go after the current frame.

SAVE

There are two different ways in which *MovieSetter* can save your production. *Save Embed* will save the *MovieSetter* script plus all of the sets and backgrounds. This will produce a large file which is a contained *MovieSetter* production. *Save No Embed* will ONLY save the script which will be a small file but will require all of the disks which contain the background and set information if you want to load the script back in. If you plan to give a copy of your production to a friend then use the *Save Embed* option.

COMPONENTS

If you load a production that was saved embedded, you may want some of the sets, backgrounds and sounds for yourself. This will automatically save the components for you after telling *MovieSetter* where you want them saved to.

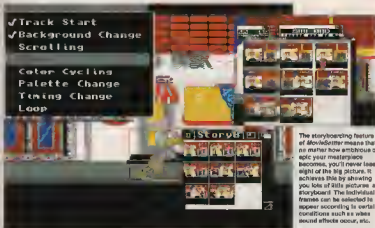
STORYBOARD

This gives you easy editing power over a *MovieSetter* production. Storyboard is a visual "database" of all the individual pieces that go into creating your animated movie. The storyboard option opens its own window, which can be resized, and shows the "key" frames of the production in a small format, just

like professional animators' nial.

Storyboard contains a Conditions menu that sorts the production according to the events that you choose. Events are selected using the Condition menu. You can go to any frame in the production just by clicking on the frame shown in the storyboard window. By sorting the storyboard by, for example sounds, you will only be shown the frames where a sound event begins. It makes editing a doddle! Furthermore, you can combine as many search criteria as you like. Different criteria from the Conditions menu are: Track start, Background change, Scrolling, Sound, Colour cycling, Palette change, Timing change, and Loop.

Only nine frames are shown at a time so hitting the arrow up key on the keyboard will show the next nine frames and the down arrow shows the previous nine.



The storyboarding feature of *MovieSetter* means that no matter how ambitious or epic your masterpiece becomes, you'll never lose sight of the big picture. It achieves this by showing you lots of little pictures (a storyboard). The individual frames can be selected to appear according to certain conditions such as when sound effects occur, etc.

FRAME MENU



The frame menu allows the editing of individual frames of your production, just like the cutting room in a real movie studio.

DUPLICATE

Creates a duplicate of the current frame by creating a copy of all visible track elements. Events in the current frame are NOT duplicated.

DELETE

Removes a specified number of frames including the current frame. Removing ten frames or more will take a long time to do, so hang loose, *MovieSetter* has a lot of hard work to do!

SHIFT

Last month we discussed Shift in detail in the Track Creation section. But briefly, with Shift on (checked), any tracks added will shift tracks and events that have not yet occurred (i.e., the track will insert, NOT overlap). With Shift off, new frames will only be added when the new track goes beyond the end of the movie.

ADD START

Adds the number of frames specified before the first frame in the movie.

ADD END

Adds the number of frames specified to the end of the movie.

TRACK MENU

NEW

From *MovieSetter* in Track Creation mode. Select a set and stamp out your track. See the section on track creation for more information.



The track menu is where you can transform your sets into animated sequences.

EDIT

Lists all tracks visible in the current frame. Double click on the track you wish to edit. (This is useful if you wish to edit a track which is obscured).

NAME

Shows the name of the currently selected track and allows you to change it.

DELETE

Deletes the currently selected track.

HOLD

Automatically holds the position of your character for a specified number of frames.

REPEAT

You can repeat a sequence by specifying the number of frames that *MovieSetter* should mimic in your track.

MOVIESETTER

EVENT MENU



Among other things, the Event menu is the place to trigger your sound effects from.

BACKGROUND

Backgrounds should be in the IFF format, lo-res pictures, which form the backdrop behind the production. This menu item has three sub-items.

SELECT

Loads a new background for the current frame.

SCROLLING

Starts a scrolling event at the current frame. Scrolling can be horizontal or vertical and can have variable acceleration and start/end velocities. Start velocity is the amount of speed the background scroll will have initially. End velocity is the speed that the background will be travelling at when it reaches its top speed. Experiment with different values to achieve the best results.

BLANK

Removes the current background while leaving the colour palette the same.

SPECIAL MENU SET EDITOR

Invokes the Set Editor area of MovieSetter with the currently selected set. See last month's section on this for more detail.

SELECT SET

Permits you to load, delete or select a set.

GUIDES

Often in the creation of a production, it is necessary to place a track down in an exact location. Guides enable a path that the set will follow automatically. See this month's section on Track Creation for more information on Guides.

HISTORY

Leaves images behind as a track is stamped out to aid in the placement of the new track elements. History works on the currently selected track. The number of frames that are left behind is selectable through keyboard shortcuts. Control and the up arrow increase history end control and the down arrow decrease the history.

BORDERS

Toggles the display of the track element borders. Borders are the rectangles around sets that define their area.

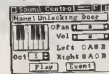
SOUND

MovieSetter lets you add sampled stereo sounds to your productions. After choosing your sound you are asked to load an IFF format mono or stereo sampled sound. Selection of a sound places you in the Sound Control Window. The piano keys can select the sample's pitch. The Play button lets you hear the sound at the current settings. Clicking on the circle besides Pan will activate the panning controls. This lets the sound be played on either the left or right speaker or somewhere in-between. (In other words Labour, Tony or Liberal! A little bit of politics there for you, he says slipping into a Ben Elton voice!)

The Event button creates a sound event according to your settings in the Sound Control Window. Please note that a new sound event will interrupt any sound that is currently playing on the same channel.

SOUND NOTES

While sound may seem difficult to grasp at first, in practice it is quite easy. Imagine adding a stereo sample to a bouncing ball animation. First select a



snappable bouncing sound from the disk. If the ball is bouncing from the left of the stage, turn panning on and drag the pan slider over to the left. Now play the production lo-

ward one frame at a time until the ball hits the ground. Select Event and you'll hear the sound everytime the frame is played. Each time the ball hits, add another sound event. Gradually move the pan slider over to the right so the sound follows the ball across the stage. Rather nifty eh?

COLOUR CYCLING

MovieSetter allows ranges of colours to be cycled during a production. Cycles can run at different speeds and no colour can be running at any one time. The cycling window shows you the colour palette of the current frame placed in a row. Select any number between one and four as the first cycle. Now choose a range of colours by holding

SHOW WIPES

If the production contains wipes they will be shown while you edit new tracks. While this is vital in playback, it can be a little confusing in edit mode. Select this function to toggle it on/off.

CYCLING

If the production contains wipes they will be shown while you edit new tracks. The same here applies to the Wipes menu option too.



IFF palette cycling is supported by MovieSetter. You can adjust the speed, direction and range of the cycle with this requester.

down the left mouse button at the first colour in the range and then dragging the horizontal bar that appears to the last colour in the range. You can adjust the direction of the cycle by logging the arrow button and the speed with the scroll bar. The Tab key on the keyboard will toggle the cycling on or off. Event places the cycling setting as an event.

PALETTE

Palette events change the colours off the current frames to any new hues that you desire. Choosing palette places you in the palette window. The six sliders are for red, green and blue levels and hue, luminance and saturation (similar to DPaint II). The Speed, Exchange and Copy buttons work in a similar way to the buttons in DPaint.

TIMING

Regulates the speed that the production is played at. Timing can be changed as often as you like. See the timing charts last month for more information. Remember that the maximum speed for animation in Europe is 50 frames per second on a PAL system and 60 in America.

LOOP

Placing a loop simply tells MovieSetter 'when I get to this frame, jump backwards'. You can have as many loops as you like, all you need to specify is the start frame, the frame to jump backwards to, and the number of times to loop.

SELECT

Shows all the events in the current frame. Events can be deleted by double clicking on their name in the list, or deleted by single clicking and pressing the delete button.

INTERLACE

Toggles the Amiga's interlace video setting during full speed playback. Interlace should be turned on when transferring your productions to professional quality video tape. Interlace does not increase the vertical resolution, but removes the faint black lines that exist between scan lines and makes the picture 'smoother'.

WORKBENCH

Choosing Workbench will attempt to open or close the Workbench in the screen behind you. MovieSetter production. As MovieSetter likes all the memory that it can get, closing the Workbench frees up some more memory for MovieSetter to use.

The Special menu is mainly concerned with global system set-up such as displaying Guides, a history of frames, etc.

SET EDITING

Last month we discussed how to create and edit your own animation using the built in Set Editor. This month we're going to take a look at all the editing icons in detail.



BUILD IN BRUSHES

The set editor has eight built in brushes. A pixel, a cross and two circles and four squares of different sizes. Click on the brush you wish to use to draw with.



CONTINUOUS FREEHAND TOOL

Selecting this option will draw an unbroken line with your currently selected brush.



DOTTED FREEHAND

This produces a broken line when you draw with it. The faster you move the further apart the images are placed.



STRAIGHT LINE

To draw a straight line after selecting this tool, click and hold down the left mouse button at the start point of your line. Now move to the end position of the line and release the button.



AIRBRUSH

Use this to create 'stipple' effects. It produces a fine spray using your currently selected brush.



RECTANGLE TOOL

This allows the easy drawing of rectangles, filled or unfilled. To draw an unfilled rectangle, click on the top half of the gadget at the bottom half for a filled rectangle. Now go into the drawing area and hold down the left mouse button where you want the rectangle to begin. Drag the pointer to the opposite corner of the rectangle so you can achieve the correct size and shape. Release the button and the shape will be drawn.



OVAL TOOL

This allows the drawing of circles or ellipses, filled or unfilled. It works in the same way as the rectangle tool except that you position the mouse pointer in the centre of the circle which you want to draw, not at the corner.



FILL TOOL

The fill tool will fill any enclosed area with the currently selected colour.



BRUSH TOOL

Picks up an area of the screen to make a custom brush. Use it in the same way as the rectangle tool, except whatever lies within the rectangle you draw will be picked up as the new custom brush.



RESIZE TOOL

This will stretch or shrink the current brush in any direction. Select this tool and drag the brush into its new shape. This only works with custom brushes.



ROTATE TOOL

This will show a rectangular outline of the brush size in the drawing area which can be rotated by holding down the left mouse button and moving the mouse until the angle you require is reached. Release the button and the new brush will be displayed.



FLIP TOOL

The left side of this tool flips the current brush along the vertical axis and the right side of the tool flips the brush upside down. Flipping 'left'.



LOAD BRUSH

This will load a brush or picture that you've previously saved to disk into the clipboard area. A brush in the clipboard area can then be picked up and moved directly into the drawing area of the set editor.



MAGNIFY TOOL

This zooms in to the area selected after you have chosen this tool. Please note that only the single dot pen is activated in this mode for fine detail touch ups. Selecting the tool again switches off the magnifier.



ZOOM

This zooms in and out while in the magnify mode. Select either side of this tool to zoom in or out.



UNDO TOOL

Clicking on this erases the last action you made in the drawing area. Use this if you make a mistake.



CLEAR TOOL

This erases everything from the drawing area. Use Undo if you click on this by accident and the screen will be restored.



CLIPBOARD WINDOW

This window is opened by pressing on the load brush gadget. This is where brushes are stored before moving them into the set editor. There are the gadgets you should find in the window.



DISK TOOL

Goes to the disk requester, allowing you to load a new picture or brush into the clipboard window.



GRAB TOOL

Selects everything in the clipboard window as a brush. This brush can then easily be stamped into the set editor with the left mouse button.



RECTANGULAR BRUSH TOOL

Selects a framed area as the current brush. See the description of the Brush tool.



POLYGON BRUSH

Selects an irregularly shaped brush. Use a left click to set the first point. Notice that there is now a rubberbanded straight line that follows your mouse. Each time you press the left button, this anchors the line down. When the last anchor line meets the first one, the area contained within the outline is your new brush. Double clicking will join the last point to the first one for you.



MOVE TOOL

The Move tool cannot be seen unless you click in the clipboard window without selecting one of the other gadgets. A hand will appear which can be used to move the picture underneath it. Use it to scroll to different parts of the clipboard picture.

SET EDITOR TOOLS

These tools can be found down the left side of the set editor screen. They control various editing functions used in the creation of animated sets. Let's start at the top and work our way down in turn.



GO TO BEGINNING OF SET:

This places you at the first face of the current set.



GO TO PREVIOUS FACE:

Places you one face back from the one shown in the current set.



PREVIOUS SET BACKWARDS:

Cycles quickly through the faces in reverse to give you an idea of how the set looks when animated. The up and down arrows on the keyboard speed up and slow down the animation.



STOP PREVIEW:

Stops the set preview, or press the space bar instead.



PREVIEW SET FORWARDS:

Plays the set forwards in real time.



GO TO NEXT FACE:

Advances forward by one frame.



GO TO END OF SET:

Advances to the last face in the current set.



CUT:

Cuts the current face from the set and places it in the paste buffer.



COPY:

Makes a copy of the current face and places it in the paste buffer.



PASTE:

Clicking on the top half of the gadget places the face from the paste buffer before the current face in the set. Clicking on the bottom half of this gadget places the face from the paste buffer after the current face in the set.



INSERT FACE:

Clicking on the top half places a blank face before the current face in the set and the bottom half of this gadget places the blank face after the current face.



DELETE FACE:

Deletes the currently shown face from the set.



REGISTER MARK:

Allows for the placement of registration marks on your set. The registration mark is the pixel where MovieSetter lines up the animation. We talked about it last month. For more information on this, see the editorial in last month's issue. For those who missed out on our MovieSetter offer, don't worry, as we'll be giving you details on how to get your copy at a special discount rate next month.

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MOVIESETTER

HINTS AND TIPS



Using the set editor you can create your own graphics or import IFFs from other paint packages such as DPaint.

● **Use multitasking!** Several windows displaying different editing information can be opened at the same time. (This is not an IBM PC, you know!) Each window can be resized and selected when it is needed. In practice, you can leave the storyboard up and running in the editing process. This allows you to sort the production in different ways, letting you move to the beginning of the event you want to edit.

● **Coordinates** are available when trying down a track. The playwin control window lists the current screen location of the mouse pointer.

● Most sets can be registered approximately in their centre. Some sets are better registered at a certain point in the drawing window. We've found that walking character sets work best when registered to one of the feet. This reduced the chance of 'moonwalking' or floating effects.

● **Keyboard shortcuts** make life easier. Using the mouse for every choice sometimes means that you must leave the editing area. You can lose track of a set's placement when you do this, so using the keyboard means that you can concentrate more on the animation's path.

● Occasionally, bringing a large set or sound event into the production will slow the existing animation down a bit. To get around this problem use the timing control to slow the entire production down to a speed that MovieSetter can handle successfully without sudden slow downs.

● The on-screen palette gets its colours from the background picture. If no background is loaded the program gets the colours from the current set. If you want all the colours to remain the same, use the same colour palette through out the entire production.

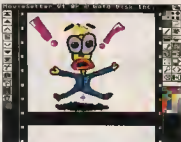
ANIMATION TIPS

● The cornerstone of good animation is the ability to apply exaggeration to all the elements in your production. Try making your characters so they appear to be made out of jelly. Tex Avery was the master of cartoon characterisation and exaggeration. Try re-creating some of his classic cartoons and see how his characters reacted in a surprised way. They would hover in mid air, their ears, eyes and other parts flung in all directions and there was usually some funny sound effect, like a claxon. Practice some of your own and experiment!

● Remember that objects such as people and cars require time to build up speed from a standing position. Use a few extra frames to achieve acceleration and momentum when you slam on the brakes.

● Take a look at some of the brilliant Eric Schwartz's animations available from most PD companies. Many of his greatest productions were created using MovieSetter and can be obtained for a couple of pounds each. Eric shows how it is perfectly possible to create animation on a computer which is comparable to the authentic pen and paper stuff. His characters show surprise and other expressions in the most comical and classic ways.

● Watch how things work in real life and act out character movements and expressions as you draw them. Watch yourself in a mirror or get a friend to pull faces while you draw them.



If you have a bit of artistic talent you could soon be turning out productions as impressive as those by Eric Schwartz.

KEYBOARD SHORTCUTS

Here are some of MovieSetter's keyboard shortcuts. Use them instead of the mouse. You'll find it's quicker and more convenient. An italic capital 'A' refers to the right Amiga key.

GENERAL

F1 - Hide/show player control window

F2 - Hide/show track edit window

F10 - Hide/show title screen

TRACK EDITING

Left/Amiga + Click - Stamp track element, switch to next face

Alt + Click - Stamp track elements, switch to previous face

→ - Next face

< - Previous face

Ctrl + click - Complete track and stamp last track element

F5 - Complete track

Backspace - Backup and delete last create track element
G - Guide toggle on/off

Del - Delete visible track element or current track

Shift - Constrain mouse movements to straight line

TRACK CREATION/ PAST/MOVE

Arrows - Shift registration mark

Alt + Arrows - Shift 'em faster

C - restore registration mark

NON EDIT MODE OR PLAYBACK

Up/Arrow - Play forward

Down/Arrow - Play reverse

Right/Arrow - Step forward

Alt + Right/Arrow - End of movie

Left/Arrow - Step reverse

Alt + Left/Arrow - Beginning of movie

IN PLAYBACK ONLY

P - Pause

SpaceBar - Stop

IN STORYBOARD

Up/Arrow - Next 8 frames

Down/Arrow - First 8 frames

SET EDITOR MENUS

Set/New - A N

Set/Load - A L

Set/SaveAs - A S

Set/Copy - A C

Set/Exit - A Q

Special/ShowRegMarks - A M

Special/FlipSetHcnz - A X

Special/FlipSetVert - A Y

PRODUCTION MENU

Production/New - A N

Production/Clear - A C

Production/Load - A L

Production/Insert - A I

Production/SaveNoEmbed - A S

Production/Storyboard - A T

Production/Exit - A Q

FRAME MENU

Frame/Shift - A H

Frame/AddStart - A A

Frame/AddEnd - A Z

TRACK MENU

Track/New - F4

Track/Edit - A E

Track/Hold - F8

Track/Repeat - F7

EVENT MENU

Event/Background/Select - A B

Event/Sound - A D

Event/Colour Cycling - A Y

Event/Timing - A P

Event/Loop - A Q

Event/Select - A V

SPECIAL MENU

Special/SetEditor - A F

Special/Guides - F3

Special/History - F8

Special/Borders - F9s

Special/Cycling - Tab

Special/Workbench - A W

GRAPH

Over the last four months we've witnessed Peter Lee's *Ster Trek* animation develop from storyboard to fully-fledged micro-movie. This month our graphics maestro takes a look at several presentation packages to help put the finishing touches to your sci-fi extravaganza.



THE FINAL FRONTIER

It's not what you do, but how you do it that's important. Presenting your work in an accessible format is the key to successful animation work, and this month Peter Lee takes a look at some of the best presentation packages currently available for the Amiga.

NEARING THE END

After you've completed your movie (and let's take credit for this, what we've built up over the past four issues is a mini-movie) you'll need to edit and showcase the final animation.

As we've progressed, using *Deluxe Paint* to create our various segments, we've built up several distinct animation sequences. And unless you have plenty of memory, the only way to do your work purpose is to present these individual sections as professionally as possible. The same is true of any related sequences you may create – having the user operate the various segments of your display interactively is far more satisfying than simply looping through the complete story in one go. For one thing your work deserves to be savoured more fully a portion at a time.

PRESENTING...

In this final instalment we'll look at a number of presentation packages first, then move on to the more technical world of animation editing. Thanks to the Amiga's stronghold in video work, and the blessing of a standard ANIM format, several programs are available to help with showing off your wares. Here are mini reviews of some of the best.

CAN DO

HB Marketing, Price: £101.16,
Tel: 0753 686000

PRESENTING...

I have to admit that this is my preferred piece of software. While it's much more than an animation player, it does the job beautifully. The program

allows you to construct a front-end for many kinds of applications – presentations, your own programs, menu structures and so on. But these are secondary to our main aim which is to create a comic-book style package to show off our *Ster Trek* animations.

Although the past few months have been graphic intensive, we only really need to draw one more screen now, then see how *Can Do* can help in bringing our story to life. Although the program can create and draw its own click buttons – areas on screen which activate an event when a mouse button is clicked within them – I prefer to design my own initial display screen, with buttons of my own. There are no constraints to the size or nature of these – you can opt for triangular, circular, or standard rectangles. The beauty of doing it this way is that you can draw your screen in keeping with your subject.

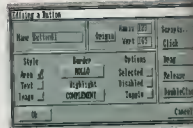
Can Do isn't fussy about the IFF images it loads. You may have a digitised picture in your collection which would form a perfect back drop for your menu – all you have to do is load it into *DPaint* and draw in your buttons. These should be labelled according to where you want *Can Do* to lead the user. In the case of our animation sequences, each can be named as chapters so the viewer can select which chapter (or sequence) to view by clicking on one of your buttons. You also need to draw an Exit button on there, too, (user-friendliness) and maybe one which will lead to a screen of credits.

FONTS AND STYLES

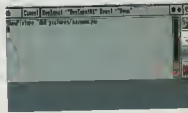
Can Do allows you to print to the screen with varied fonts and styles, so you could put your name up in lights if you so desired. One button could even be used to cycle through the entire anima-



The main menu of *Can Do* looks pretty here – but the buttons are contained in the program area for *Item Spartan*. You can define text windows, sound events and even pull down menus from here.



Can Do lets you size and place buttons on your IFF images. It's up to you what the program does once it senses a button has been clicked. The options on the left even allow you to load in an irregularly-shaped brush as a button image, and on the right you can opt for one of four mouse events with which to launch a script.



Writing a script in *Can Do* can be as easy as clicking on one of the icons (right), or editing the scripting language. The help feature is a model of friendliness, too.

AMIGA VISION

tion. Although you may not have enough memory to append the various parts of the animations into DPParent one time. CanDo will show them consecutively, even if there is a minor pause as each one is loaded. Once the menu screen is saved, it can be loaded in CanDo as the first item to be displayed—the program calls each element in a script card, and you can easily have one card lead to any other in the pack. Each of your animation sequences would be a separate card, accessed by a hit button on the menu screen you've drawn. Telling CanDo where a hit button is located is as simple as dragging out a correctly-sized box over that part of your image where you want the hot-spot to be. After that, you simply have to tell the program what action to perform once it detects a mouse-click—in our case a Goto Card # (it's the card number of your animation sequence) where the animation will be played. Using the built-in script language (which is much easier than AMOS I have to admit) you can loop the sequence until a particular event (mouse click, keypress or timer) then go back to the menu. It's all very professional, and as a runtime module is provided for free distribution with your work, no-one will know that the presentation wasn't programmed in CI Horastly, once you've got over the intricacies of setting up the Interface and testing it out, your work will boot up on the Amiga and work as if some computing megahed had spent six months writing the code. As well as CanDo's presentation abilities, it can also play sounds—so what's to stop you using digitised effects from the Star Trek show itself? They add a new dimension to Amiga shows, and whatever your animation work, sound FX add another layer of professionalism. The program can be used to show IFF images and text in windows so a virtual HyperText system is well within your reach. Writing complex interactive graphics presentations on CanDo is not quite as simple, but it is the easiest way I've found for mixing information and explanatory diagrams whilst giving the user complete control.

AMIGA VISION

Commodore, Price: £111.63,

Tel: 0628 770088

DARK HORSE

This brilliant multi-media package from Commodore is something of a dark horse. It's a tricky blend of icon and script-based control, but can be used to create totally professional presentations containing animations, stills, sounds—even video if you have the hardware. To use an analogy—if CanDo is the Lotus Export of the presentation world (a speedy little racer), AmigaVision is the BMW—a sturdy built and oozing reliability.

The flow of your presentation is represented on

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AmigaVision Authoring System (English)

Building up a script in AmigaVision starts off easily enough by dragging icons into the editing area.

...and as you can see, there are plenty of icons to choose from.

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the main screen as a series of icons, with loops, branches, and enablers forming a visually intuitive cascade down the screen. Routines are built on the basis of Parent and Child objects, and for one animation example the whole session would be contained in one Module, with as many Children as there are sequences. Progress through the show can be made by either specifying a time period or waiting for a key or mouse click to continue.

SPEECH SYNTHESIS

As in CanDo, hit boxes are an integral part of AmigaVision, so your first screen would be of the menu, allowing the user to decide for themselves which route to take. One feature of Vision which

CanDo lacks is the ability to define a polygon area as a hit button. If you drew a menu choice button as a triangle in CanDo, you would have to load it in as a separate brush onto the main image if you wanted the speech shape to be the hot-area. In Vision, you simply tessate around the relevant area. Vision also has great control of on-board speech synthesis so you could, in one example, have either a narrative to the story or have the Trek characters actually say their lines instead of printing out text on screen. In 'writing' your script (I use the word advisedly) you select icons which perform the desired function, then add it to the editing area. Double-clicking on an item—for instance the one representing graphics, opens up a requester where path and display options are specified.

Amiga Vision is an all-singing presentation package, but the learning curve is steeper than CanDo. And when you want things done simply and quickly, CanDo is always my first choice.

ELAN PERFORMER

H8 Marketing (comes as part of Media Station package),

Price: £179.90,

Tel: 0753 686000

THE EASY OPTION

The rather dated package is a bog-standard presentation utility. It's a piece of cake to use, which makes it an ideal starting-off point. Elan will display images or animations at the press of a key and setting it up is as easy as clicking on a filename and then on a key. Once pressed, the key will then show the image. There is no menu structure, but all you need do is draw an initial menu screen, telling the user which keys activate which sequences, and leave them to it. Elan's ease of

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GRAPHICS DIY



Edin - A neat, no-fella way of showing IFF screens and animations at the press of a button. This is the only control screen it possesses. Simple or what?

more subtle than a simple slideshow program, provided you structure your images beforehand. For instance, you can create an interactive presentation by including the relevant keyframe information on your image as text (ie - to see the heart pumping blood, press F4). There is no scripting language, though all loaded elements (whether stills or animations) can be repeated as many times as you like, and each key can have an image locked into it. It is also nice if you have additional memory as the changes from frame to frame is almost instantaneous.

DELUXE VIDEO III

HB Marketing, Price: £99.99,
Tel: 0753 686000

ICON-DRIVEN

Still with the heavyweight presentation packages comes the grand-daddy of animation programs. *Divideo III* allows you to tailor your animations in an icon-driven serial format, which is more intuitive than either *CanDo* or *AmigaVision*. Animations are contained within Scenes which are placed on Tracks. You can mix stills, text, ANIMS and sound FX within the same scene, which allows you great potential for the Star Trek Animation. Loading title screens or scene-setting IFF images means you do not have to have them sitting up frames of an animation. Sequences can start by a mouse click, played at the correct speed (great if some of your segments run too quickly or slowly) and, again,

DeluxeVideoIII, 015992 C, 3262594 F



DeluxeVideoIII allows you to perfectly time animations and still screens for a professional-looking presentation. As you can see, the upper timeline contains a good selection.

there is a run-time facility to enable you to make the presentation bootable for distribution without the program itself. The interactive nature of the program does lag way behind *CanDo* or *Vision*, so you would need to do some complex pre-planning to achieve a user-selected run-through using a menu system. But it is easy to use and once mastered proves invaluable.

ANIMATION STATION

Progressive Peripherals &
Software, Price: £H/A,
Tel: 0101 303 825 4144

FEATURE PACKED

This program is a workmanlike and inexpensive way to start Animation editing. The NTSC editing screen is a put-off, but there is certainly no shortage of features. It is even powerful enough to allow special effects within frames and sequences. A feature it shares with *Take2* is the ability to have a



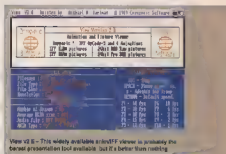
More than just an editor, this program lets you cut and slice your work into all kinds of sizes.



A screen of a layout with something of a nightmare in the icon station. This is Animation Station's main editing screen. A storyboard as been loaded, and successive frames are ghosted in the cells. This is the heart of the program, and all controls are immediately visible.



The control panel on Animation Station which allows you to edit the ANIM's colour palette.



visual reference of Anim frames in memory if desired. These are represented on the edit sheet as tiny grey images - but they give a nice feel to working with the program. Unusually for Amiga software, there are no pull-down menus. Instead, icons ranged along each screen edge control the show. Frame movement is a point'n'click affair, though you have to be familiar with the workings of the program before you jump in.

TAKE 2

Rombo, Price: £49.95,
Tel: 0506 414631

MUCH MORE THAN AN EDITOR

This first class animation editor is primarily aimed at the digitised sequences obtained from Rombo's low cost digitiser, but is equally at home with *DPaint* ANIMS. I still haven't come to love the interface - which uses a dialect of icon which only RD2 and the author know - but I do love the facilities it offers. Again, the program is much more than an Editor and it allows some excellent time-tweaking of ANIM files which *DPaint* alone cannot achieve easily, if at all. The heart of the program is a simple exposure sheet, which lists items included in the animation - including sound effects which can be synchronised to kick in at a particular frame. Layering is a powerful feature which lets you combine different elements (of the same screen specification) into one animation. In itself it isn't a presentation package, but it does add another weapon in the armoury of video creation.

P.A.S.E.

HB Marketing, Price: £76.63,
Tel: 0753 686000

THE PROFESSIONAL

The Professional Animation Sequence Editor is aimed at the professional user. This is evident in the complex interface which is something of a hindrance to what is the Rolls Royce of editors. Frames are loaded into the editor where they are processed into a proprietary file format called DAF (Difference Algorithm File). From here on in there's very little you can't do to the sequence. Cutting, copying, looping from a specified point, speed editing and finally saving multiple scripts for the same sequence. While you cannot play the DAF files as easily as ANIM files, the program can call up the DAF player to run through the sequence as edited. It's a shame about this non-standard approach, but it was done to allow the kind of sophisticated frame editing and manipulation features provided. ANIM frames deny you that luxury.

GRAPHICS DIY

WARP FACTOR 10

Mission completed, it's time for the Enterprise to blast off into the wild blue yonder to boldly keep on going where no starship has gone before. Peter Lee finishes his excellent animation tutorials with the Federation Starship zooming off into the distance...

THIS IS THE END

It's been four issues now, and finally Kirk and Spock have saved the universe by defeating the alien presence. So it's time for a wrap as far as our animation tutorials go. Except we need to tie the whole story up with an appropriate end sequence.

Hopefully, during these past months, you've been able to pick up new ideas and techniques which will make your animations more professional. Our final effect is a simple one, but it incorporates a dual rendering technique which you may sometimes have to call on. The end piece to our animation simply shows a stylised star field with the planet dead centre. A line of text tells the viewer that it's over, and the Enterprise will glide swiftly into infinity. This is achieved by sending the spaceship brush 'back' into the screen (into the Z plane). But there is a slight problem with DPaint in that it tends not to like making brushes disappear into nothingness. So the trick is to emulate the shrinking brush of the Enterprise as far as the program will allow in around 15 frames, then remove the final small rendering of the ship, and add 10 more frames based on the original picture minus the spaceship. This is achieved from the Animation/Frames/Add/frame option which inserts the current frame as an extra one. Now you can simulate the jump to light speed by having the ship turn into radiating points of light, which can also be sent back along the Z plane until on the final frame they are small enough to erase manually. Draw your sparks of blue light, cut them out as a brush, and animate them in the Z plane exactly as you did with the spaceship.

POINTS TO REMEMBER

1. You do not want the new animation to overwrite the existing frames so you must specify the number of additional frames you have created in the Frames counter box in the Animation Move requester.

2. As well as moving both brushes (the ship, and later the light burst) back into the 3D dimension, you need to move them horizontally too to give the effect of a ship moving across the field of view.

3. Use the anti-alias setting to ensure that as your brushes are reduced, they are rendered in the best possible way.

FINALLY....

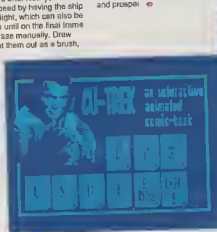
If you have been following the storyboard, you may want to generate a more realistic conclusion to the project by having Spock and Kirk exchange dialogue on the planet, using the same techniques for mouth movement and narrative we've already covered. Alternatively, you could use the scrolling Star Wars text we explained to finalise the story without reverting to character animation again. Whatever you decide to do, you should have enough new methods of animation presentation to cover almost all eventualities, in whatever projects you undertake. Finally, I hope this Star Trek series has been as much fun for you as it was for me in the words of Spock: Live long and prosper.



The USS Enterprise heads for home, the beleaguered planet now safe - Frame 1 of a 30 frame animation.



Kirk and Spock safely aboard, the ship glides into the background, using DPaint's animation power...



When using presentation software to show off your animations, the menu screen is all-important.



...and it disappears in a flare of photons, which have replaced the ship at frame 30 and which have been animated separately.

PD SCENE

The PD pages start weaving their magic here. If it's a utility you're after or just an addictive shoot 'em up, you'll find the Public Domain has something to offer.



HELLZONE arcade game

PD shoot 'em ups rarely come up to scratch when pitted against the big commercial releases, but this first game by Australian programmers Interscan is one hell of an exception. The game is stunningly presented with ornate, detailed, richly coloured sprites and a host of pick-ups and alien hordes. The horizontally scrolling play-field is densely populated with swarms of enemy space craft and missile spawning gunners are sporadically deployed along the borders of the screen ready to bring down your craft. The game play is nothing new and very close to R-Type in style and St Dragon in looks. This version has been released as two huge levels with the full version to be shipped out to all those who register with the programming crew. Although both stages are rock hard, once you've become accustomed to the various weapon types found in pods scattered throughout the levels you won't want to stop until you've completed it.

Disk no: G281 (Plus compatible) Available from: NBS 1
Challin Lane, Newport, I.O.W. PO33 3QG Price:
£1.75 (including P&P) Tel: 0983 529594

90%

WHAT IS PUBLIC DOMAIN?

Welcome to the Public Domain where there's a wealth of free software available for your Amiga - often at good use, it's better than a lot of full-price commercial programs. For the price of a disk and a little money to cover some things on postage and packing, you can have your pick from a stock of great games, utilities, demos, animations and applications.

The origins of Public Domain go back to the early days of computing when groups of enthusiasts would get together and would originate programs of their own. These days would describe today's friends in games companies for their coding skills. Nowadays, the PD scene has grown into a thriving industry with amateur PD developers having an ever-growing number of enthusiasts. Nowadays are doing all this. PD Demos is here to make your searching easier, they make money on an individual rate to let the best new releases as well as provide details of the full range of great disk (including software and games) and the address of where to send your correspondence. Don't just let them, start writing these cheap send

WAYNE'S WORLD SLIDESHOW

slideshow

The good news is that the first Wayne's World demos are starting to trickle through. The bad news is that this one is the same, crew that produced last month's tedious Frank Sidebottom show. To be fair I'd guess that the pictures have been grabbed from a pirate video which has resulted in the terrible quality of most of the shots. However, once again there's no excuse for the appalling track and captions that run throughout. The tedious in-house gossamer between Zerk and other crew as they accidentally at the bottom of the screen which really distracts your attention from the demo itself. I've nothing against crew keeping in touch with each other, but I've never understood why they can't just pick up a phone or write a letter, surely it would be a lot quicker than sticking all their correspondence on a disk and boring the rest of us to death with their 'in' jokes. Hopefully when the film is officially released on video Wayne's World will get a much better representation on the PD scene, until then we can only hope.

Disk no: 2106 A+B (Plus compatible) 17 Min. First Floor Offices, 2/3 Market Street, Wakefield, WF1 1DH Price
£1.50 (including P&P) Tel: 0924 364992

69%



COMIC BOOK ART

slideshow

A great collection of hand-drawn comic book art from the vast array of super heroes who inhabit the Marvel Universe of gaudily-clad characters. There are 11 classic heroes on show all drawn in Hi Res and cavorting about in their usual day-glo briefs. There's even a picture of Spiderman whilst he was underdressing his brief

costume change back in '89. The black costume he adopted was a pure marketing ploy by the comic's publishers and worked a treat as they sold thousands more issues than before. The first edition in which Spidey traded in his red and blue threads is now quite a valuable piece of pulp and ink. These days the six-foot or child alters face between the two outfits on special occasions, depending on the demands of the job. Anyway, these pictures deserve every would-be Marvel artist's attention as they're not had at all.
Disk no: 5584 (Plus compatible) Available from:
NBS 1 Challin Lane, Newport, I.O.W. PO33 3QG
Price: £1.75 (including P&P) Tel: 0983 529594

78%

TOTAL RECALL

demo

This is certainly the best demo of Arnold's amazingly successful film. The TimeCode demo cleverly mixes digitised pictures of the film with sampled speech from the flick and splices them all together in a futuristic sound track wrapped around them for affect. There are surprisingly few stills of

Arnold and not one single grab of a bloop in sight, but Sharon Stone keeps the side up by having more stun power than Captain Kirk's light phaser! Quite why the Austrian Oak wanted to pick up his bags and trek all the way to a barren, atmosphereless red planet when he had Miss Stone as his love puppet is beyond me, still he got about eight million dollars as an incentive which goes a long way to negating your natural urges.

Disk no: 5526 (Plus compatible) Available from: Diskovery, 108 The Avenue, Clayton, Bradford, BD14 6SL Price: £1.25 (including P&P) Tel: 0274 830066

75%



THE SECRET POLICEMAN'S BALL

sample

Here's a classic sound byte from the Ball held at the Royal Albert Hall in 1979 for Amnesty International.

The Secret Policeman's Ball

Produced by ASHLEY
OPCODE Software

were knee high to a grasshopper. Each one chips in with a harrowing tale in a bid to end the other until the whole thing degenerates into a complete farce and the stories become even more far fetched. What makes it even more nominal in that it touches a chord in all of us as we've all met or got relatives who like to terrorise us with such stories. Amusing stuff for those who can't afford a video. (Steve Breen currently resides in a cardboard box as the games cabinet in the downstairs lair at CU Towers where he lives with his wife, a vanity mirror and 24 children)

Disk no: M236-M231 (Plus compatible) Available from: Diskovery, 108 The Avenue, Clayton, Bradford, BD14 6SL Price: £1.25 (including P&P) Tel: 0274 830066

73%



IN THE KITCHEN

demo

Old demo themes explored in new ways. Some brilliant vectors, mandrills and blimped bod effects are grafted together in a demo which actually injects new life into the proceedings. The special effects come thick and fast with no breaks for loading and, thankfully, the scrolling text is kept to an absolute minimum. One of Anarchy's best. Disk no: 2065 (Plus compatible) 17 Bit, First Floor Offices, 2/8 Market Street, Wakefield, WF1 1DH Price: £1.50 (including P&P) Tel: 0824 366982

76%

MAGGIE 2: PANCAKE DAY

miscellaneous

Disk don't come much weirder than this. A huge collection of digitised pictures from all over the TV airwaves have been cut, spliced and generally doctored in a humorous fashion to provide some often hilarious collages. Annska Rice is revealed to be a bondage queen and Inspector Morse an active member of FAST amongst many others. Some will shock, but most will amuse in one way or another.

The collection of 'cut and paste'-type collages are accompanied by some really obscure text that tries its best to be funny, but doesn't quite pull it off. Even so, this is one of the more worth while and original demos to take a look at and it's certain to be more entertaining than most. Get it and see for yourself!

Disk no: 5585 (Plus compatible) Available from: NBS 1 Chain Lane, Newport, LO W P33 20Q Price: £1.75 (including P&P) Tel: 0983 525544

85%

SHAMEN: LOVE SEX INTELLIGENCE

sample

Yes! This is the biz. The new Shamen line-up certainly served up a corker with their recent release and, several months later, here is the PD interpretation. Four Small Custerds, using the talents of a man called Zeff, have remixed the Shamen's latest groove and let rip with one of the best disks to ever hit a floppy drive. They've still got a way to go before they can topple the masters, but the sound produced by this stereo mix is among the very best. If you like the Shamen or just dig great sounds then this disk should be an essential purchase.

Disk no: 2062 (Plus compatible) 17 Bit, First Floor Offices, 2/8 Market Street, Wakefield, WF1 1DH Price: £1.50 (including P&P) Tel: 0824 366982

83%

SECTOR ONE

game

With Alien's packer 'em in at the picture, here's a blatant attempt to cash in on the time's popularity and that of Team 17's Alien Breed game of last year. This sorry game lifts most of the alien's graphics, game-play and even sound but doesn't do anything particularly good with them. The constant pop of the main mercenary's gun and the awesomely bad sprite detection makes the game a bore from the beginning. Can't someone, somewhere, produce a quality shoot 'em up with AMOS? PLEASE!

Disk no: 0233 (Plus compatible) Available from: 885 1 Chalk Lane, Newport, LO W P33 20Q Price: £1.75 (including P&P) Tel: 0983 526564

56%





*****OCTAMED PROFESSIONAL VERSION 4.01*****

CHARGES PAYABLE TO: J.FORA Catalogue Disk 50

PUBLIC DOMAIN UTILITIES

THE LICENCEWARE CONTROVERSY

It seems that every other disk I receive these days is a Licenceware product. Providing the prices are still significantly less than their full priced counterparts (75-90% cheaper), I'll continue to review them in this column.

The explosion in Licenceware has caused a number of PD companies to raise their voices in protest. They claim that it demotes the idea of public domain and shareware software, because the products are once again becoming commercial. Other companies defend their actions saying that by ensuring that the authors of software receive some reward for their work, they are supporting new programmers as they undergo the transition from amateurs to professionals. Furthermore, they insist that because so few authors receive anything like the amount of royalties fees they should it's obviously pointless to trust the public to support shareware properly.

Some PD companies who were complaining only a few months ago, have now jumped onto the bandwagon, publishing their own Licenceware products! If you have an opinion, scribble it down and send it into Backlist at the usual address: CU Amiga, Ptery Coast, 30-32 Farrington Lane, London, EC1R 3AU.

MAP ED programmer's tool

When creating large background graphics in games, memory limitations can often cause serious problems. 8-bit programmers long ago discovered that one way of overcoming these problems was to construct background 'maps'. These maps are constructed by using a relatively small number of tiles which can be combined in different combinations to create the effect of a single, constantly changing, tiled-up background. The trouble is, it can be a time consuming business constructing them.

There have been a number of map editors on the Amiga, but *Map Ed* is certainly the friendliest one I've seen.

The program allows you to load up to three screens full of tiles, with each one containing up to 320 tiles depending on the tile size selected. Four sizes are supported: 16x16, 16x32, 32x16 and 32x32.

Once you've loaded some tiles, you must select a screen size between 5x5 and 99x99 tiles. Once that's done, it's simply a matter of placing the tiles on the grid-marked screen. The program features a full range of cut and paste options, so you can even copy sections of your map to other parts of the screen.

When it comes to saving a map, you can save in three formats: AMOS, *Map Ed* and raw. A con-

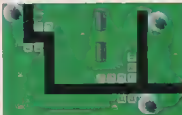
Mat Broomfield opens the lid on another Pandora's box of PD produce...

version program is also provided to let you switch between file formats.

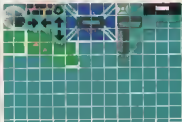
Full instructions are provided, and these include comprehensive programmer's notes detailing how to include the maps in your own creations. To complete the user-friendly presentation of this utility, source code and library routines have also been supplied to enable the quick inclusion of maps in any Amiga program.

This is one of those utilities that is worth its weight in gold, in spite of its simplicity. Disk No: Map Ed 1.05. Available from: Amiganate United, 169 Dele Valley Road, Hollybrook, Southampton, SO1 6QX. Price: N/A. Compatibility: Any Amiga. Memory: 512k.

78%



If you write games either in C, AMOS or assembler, *Map Ed* will save you lots of work when it comes to coding and constructing playfield and background maps.



SOUNDTRACKER 2.6 music utility

As superb as *GotoMED Pro* is, many programmers still prefer to use *Soundtracker* for writing music because it's relatively straightforward to incorporate its modules in their programs. Unfortunately, until now the program produced modules which were not entirely OS friendly.

With the release of version 2.6, many of these problems have been ironed out. To recap, *Soundtracker* is the original programmer's music making utility, and it's the one to which all other programs owe their development.

It has undergone constant revision since its conception many years ago. Although the program only supports four channel output, this is not a problem as eight channels are too processor intensive to include in a game anyway.

The new version incorporates all the features that have made earlier ones so popular. In addition, it now supports samples up to 128K in length. The program is also 'track oriented', which means that you can now re-arrange individual tracks in a song, as well as entire blocks. For example, if you've created a song in which the bass repeats constantly, whilst the other parts change from block to block, you needn't re-define it each time, simply let *Soundtracker* repeat track 0 and infer the rest. This great feature not only means a major saving in memory, but also in time and effort.

Other new features include: OS level interrupts, accurate volume equities, Workbench support, IFF support, and improved speed commands.

Disk No: 2067. Available from: 17 Bit Software, 1st Floor Offices, 2/8 Market Street, Wakefield, West Yorkshire, WF1 1QH. Tel: 0924 380982. Price: 1.00. Compatibility: At Amiga. Memory: 512k.

83%



The latest version of *Soundtracker* is even more memory thrifty because each track can be reused as well as full blocks.

MORSE CODE TUTOR education

There are many occasions when knowing how to use Morse code could be useful and may even save your life. Although many people think of Morse as an abstraction that they find (and indeed find) to learn at Scouts or Guides, it's still very much an active and important communication language, especially in the maritime world.

This program is designed to teach you Morse code by repetition, example and quizzes. When you begin, you may specify the range of characters to be included in the session. These can range from full alphabetic, numeric and special characters to specific groups of numbers or letters. The selection that you make at this stage will be applied to all future options.

If you like, you can also alter the default pitch, speed, spacing and volume of the codes that you will generate or listen to.

The mouse represents a Morse code transmitter, with the left button equalling dots, whilst the

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night takes care of the dashes. Personally I found the left button a tad too sensitive at times, but other than that, the program works extremely well.

Alternatively, you can use the joystick, or if you own one, you can even plug in a real Morse key.

You can choose to receive random characters

(from your previously selected range). In which case, the program will beep and put away until you tell it to shut up (about ten seconds I reckon). Each time a series of sounds are played, the appropriate character is displayed so that you can learn how the different ones sound.

An easier way of using the program is to turn keyboard sending on. When this mode is activated, each key you press is translated into its appropriate Morse code signal: useful if you need to tell someone that you know what you're doing!

When you've gained sufficient confidence, there are a variety of quizzes for you to put your skills against, and these are certainly going to help reinforce whatever you may have learned.

The program also includes the option to 'Morse' any text file that you care to load.

Quite a neat program, although I would have found it even more useful if it had actually printed dots and dashes on the screen as it sounded them. Incidentally, it seems to look up if you select 'Key Sending', otherwise it's fine.

Disk No: L101. Available from: Deje Vu Software, 7 Hollingbrook, Beach Hill, Wigan, W16 7SG. Tel: 0942 495261. Price: £4.95 inc. P&P. Compatibility: Any Amiga. Memory: 1Mb.



If you need to learn Morse code, this program claims to be the best available on ANY computer.

FRAC 2.0 adventure creator

I was recently very impressed by the release of a commercial adventure game creation system called Victory. Little did I know that such a program already existed in the form of FRAC 2.0. Version 2.0 has now been released and it really is quite an impressive piece of software, doing for adventure games what AMOS does for casuals. Although they have waned in popularity since their heyday in the mid to late eighties, many people still find time to invest in adventure to be by far the most stimulating type of game available. The challenge posed by the devious mind of the programmer offers a level of stimulation not possible with any other type of game, although RPGs come very close.

Now, for a fraction of the price of Victory you too can torment innocent games players with adventures of your very own! Like AMOS, FRAC is an entire programming language, based loosely on a hybrid of C and Basic. It has a huge number of commands entirely geared towards interpreting the player's instructions and responding to them, both verbally and with effects such as graphics and music. FRAC comes with a monstrous 159K manual that will need to be printed if it's going to be of any practical use, so say goodbye to a couple of hundred sheets of paper straight away!

The manual is written in perfectly lucid and sometimes amusing English, although it has a tendency to ramble far beyond the scope of the subject at hand. I think that this is because I author is trying to cater for absolute beginners who have never even seen an adventure game before. This is a mistake, because it's very dubious whether such people would even have an interest in the program.

To be honest, the program was too good for me to learn inside out before writing this piece, but it seems to be very comprehensive. It includes a parser creation that looks as if it can interpret even the most complex of sentences, including prepositions, plurals and contractions. The program can play modes created with MED, OctaMED, Protracker and Game Music Creator (GMC). It can also display standard and Power Packed animations and FFT access. If you need to do more than simply play other people's adventures, FRAC 2.0 could be the answer. It'll take you a bit of time to create your own games, but I'd hate to tell you the trouble. There's no reason why you can't create commercial quality programs.

Disk No: FRAC 2.0. Available from: Argamants Built, 108 Dale Valley Road, Ballybrook, Southampton, SO1 6QJ.

Price: N/A. Compatibility: Any Amiga. Memory: 1Mb.

Why pay 40 or 50 pounds for commercial adventure creation when FRAC gives all the tools you need?

AM/FM ISSUE 5 music magazine on disk

Making music is one of the most popular 'serious' pursuits engaged in by Amiga owners, as attested to by the vast quantity of software available. Of course, most magazines carry some music sections now, but for many, these small monthly slices are simply not enough. They want serious 'they want utilities, they want song modules and they want samples'.

To date, Amiga Musician's Freeware Magazine (AM/FM) is the only dedicated source for such enthusiasts. I took a look at issue 5 to see if it was worth getting excited about, and I must admit I was very pleasantly surprised.



AM/FM is the only dedicated Amiga musician's magazine. As it is on disk, you can actually try out the programs and tune for yourself.

MED and OctaMED, so the mag was off to an auspicious start straight away!

Reading down the menu, the program is arranged very much like a conventional magazine, complete with editorials, reviews, news and letters etc. Because it's a dedicated mag, it is able to go into far greater detail than ordinary Amiga magazines. It covers everything, from professional MIDI sequencers and instruments, through sampling CDs and hardware, right down to music packages such as MED and Soundtracker.

Better yet, a selection of songs are included for you to listen to. When you tire of these, you can use some of the utilities provided to have a go for yourself. Issue 5 contains an impressive selection of utilities, including editors for a range of synthesizers, a music writing program, and a real-time oscillator, to name but a few.

If you're seriously interested in music, this is one magazine that you truly can't afford to miss.

Disk No: AM/FM45. Available from: 17 Hill Solihull, 1st Floor Office, 2/8 Market Street, Walsford, West Yorkshire, WF1 10H. Tel: 0274 366092. Price: £.59 inc. P&P. Compatibility: Any Amiga. Memory: 512K.

TOTAL CONCEPT'S ASTRONOMY education

A couple of months ago, I reviewed a wonderful multimedia product called *TC Discoverers* which described the history and development of all things prehistoric.

Now, Total Concepts have turned their attention to the equally mysterious world of deep space, with their *TC Astronomy* program.

This thoroughly entertaining disk delves into the mysteries of binary star systems, black holes and zero-g (ohmy plug!) with absolute transparency. The program's author, C.Hill, hasn't had the need to try and cram it full of boring technical information or astronomical physics and maths, he simply restricts himself to presenting the facts. For example, he talks about solar flares and what they are, solar winds and penumbrae, but it's not turned into a science lesson, rather, the subject is presented as a relaxing amble round the galaxy with text and pictures to illustrate the point.

On the subject of pictures, Mr Hill has obviously mastered the digital now, because the quality of screens is absolutely first class.

The entire thing has been put together using Gold Disk's Hyperbolic Browser, and that means that it's all mouse controlled. Mr Hill has now added an alphabetic glossary of terms which you can use to find any astronomical expression before jumping straight to it by clicking its name. Unfortunately, the picture menu has now been discarded which is a shame, but I suppose its absence does provide you with additional incentive to read the text all the way through.

Disk No: PEST6. Available from: Velocity PD, PO Box 15, Paterley, Co. Durham, SR8 1XZ. Tel: 091 5871115. Price: £1.15 inc. P&P. Compatibility: Any Amiga. Memory: 512K.

DISK IMPLORER (DIMP) disk compression utility

If you have a stackers, and ever need to retain the exact structure of a disk whilst sending it to someone, DIMP is the solution.

It works in much the same way as the archivers like ZIP and ZIP-HOW, instead of compressing files, it's used to compress and store individual disk cylinders. In general use, this would mean simply compressing all the cylinders on a floppy disk, but if you need it, you can specify which ones to be compressed (and if you paid need to transfer the backside of a disk).

The program features multiple compression levels, and if you like, you can specify that the compressed file will be stored as a self-extracting executable object. This means that when the program is executed, it will automatically decompress and write back to a blank disk exactly as it was before you compressed it.

The program runs from CLJ and is very simple to use, considerably easier than the archivers to which it's related. This is primarily because most of the options used by archivers to retain the file and directory structures are redundant when dealing with cylinders instead of files.

The program claims that it can be used to compress a sub-section of cylinders from any floppy compatible device, and I don't know if that includes hard drives, but I didn't want to try.

A very useful utility, which can save the recipient of your disk a great deal of time retransferring any disks that you send. **Disk No: U046. Available from: NBS, 1 Chain Lane, Newport, Isle of Wight, PO30 5QA. Tel: 0983 529394. Price: 1.75 inc. P&P. Compatibility: Any Amiga. Memory: 512K.**



ALL ORDERS RECEIVED BEFORE 3PM ARE DISPATCHED SAME DAY ON GUARANTEED ERROR FREE DISKS

AM/FM is a recently started disk rag for Amiga users who are musically interested. It covers all aspects of using the Amiga for sound and music production, bringing News Reviews, Gospel Tutorials as well as 3-4 selected Amiga only songs, 3-4 Ami songs and 2-5 selected Sound-Music utilities in each issue. Created by some 20 professional musicians including Björn Lynne and Tejo Kinnunen.

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blue pages

contents... This month's Blues Pages are positively stuffed with useful information, features and tutorials to help you get the most out of your Amiga. If you're serious about using the Amiga, then the next 32 pages have been specifically written with you in mind. Whether it's book reviews, music tutorials, or a problem you went answered, the Blues Pages have a section for you.

149 BOOKSHELF With the Festive season fast approaching, no doubt you'll be thinking of treating yourself or a friend to one of the hundreds of Amiga-related books that inhabit your local friendly neighbourhood book store. It so, then read the first of an on-going series of buyer's guides aimed at the committed book-worm! Over the coming months we'll be reviewing practically every book on the market, from player's guides for all the latest games to hard-bound technical manuals the size of telephone books (and just as interesting)

152 AMIGA WORLD In a change of focus, Mike Gerrard takes a look at the wonderful and wacky world of the Amiga. Each month, Mike will be taking a look at some of the more unusual uses that the Amiga is being put to. This month, he examines a new program that's been developed to train police forces in crowd control techniques. Set at a notorious football ground, *Vistrain* helps the police train their officers to handle any emergency, from marauding soccer hooligans to a major fire at a stadium.

155 INSIDE INFORMATION If you're looking for the inside info on all the latest games and want to keep abreast of the most up-to-date industry gossip, then you've come to the right place. For starters, we've got the top twenty full-price and budget charts as well as a run down of the team's current favourite games. And if you want to know what was happening one, two or three years ago in the crazy world of computer gaming, then we take a stroll down memory lane

156 COMMS Owning a modem can open up a huge global network of bulletin boards, free software and Amiga-specific conferences. Not only that, but you are also instantly in touch with thousands of like-minded individuals and, no matter what your interests, there'll be someone, somewhere who shares them. Your guide through the electronic airwaves, Dave Burns, is here once more to offer invaluable advice about the burgeoning comms scene

158 BACKCHAT If you've a problem, a question, a gripe or a moan, then this is the place where YOU get to have YOUR say about anything to do with the Amiga. So, if you want to join in any of the lively debates, pick up a pen and paper, and get scribbling.

162 CLUB CALL If you want to get in touch with a computer club near you, then this is the place to look. Each month we take a look at a number of different Amiga clubs covering the length and breadth of the country. From games clubs to programming groups, there's bound to be one that will appeal. For the cost of a second class stamp and envelope, you could be put in touch with hundreds of fellow users in your area. And remember, if you run a club, here's the place to garner some valuable free publicity for your user group

166 QUESTIONS AND ANSWERS By day he's a mild-mannered technical adviser for a top Amiga magazine, but when he dons his famous blue pokka dot boxer shorts he's magically transformed into - tada - Mat Broomfield, the man who's got an answer to all your technical queries. Whatever the problem, Mat's on hand to offer advice and information to help you out

171 OCTAMED PROFESSIONAL Part four of our comprehensive *Octamed Professional* tutorial finds Mat Broomfield probing the inner most workings of this superb music program. This month Mat takes a look at traditional notation and sheet music and explains how you can enter your favourite pop songs in no time at all

174 MUSIC CU Amiga's musical maestro, Tony Horgan, is here once again to share with you his top tips for making beautiful music on the Amiga. This month, our Tone takes a look at how to jazz up samples with some realtime effects and how to add some reverb or echo. Take it away. . .

177 NEXT MONTH The page that nobody believes and can you blame them? Next Month gets written six whole weeks before the magazine goes on sale and it really is a case of the Ed making it up as he goes along. (No I don't - Ed) Yes you bloody well do! And to prove it, just turn to page 177, wait 30 days and just see if I'm right!

178 POINTS OF VIEW The man behind such hit games as *IK+*, *Jimmy White's Whirlwind Snooker* and *3D Pool*, the one and only Archer Maclean gets all worked up about where the next generation of computer games coders are going to come from. Is the console boom going to stop people from learning how to program?

BOOKSHELF



With the Christmas season fast approaching, CU Amiga takes a look at a selection of Amiga-based books currently available.



If you're a committed gameshead, then these books are essential reading. Contained within are hints, tips, clues and walkthrough guides to all the latest adventure and RPG games.

GO ON, GIVE US A CLUE

If you've ever been stuck in an adventure, you'll know how frustrating it can be. With no one to turn to, you could be trapped in your pixel prison for all eternity. But wait! Help is now at hand in the form of countless clue books to help you on your travels.

For years gamers have been getting stuck in adventure and RPG games. Right from the start of *Colossal* someone somewhere has been pulling their hair out in frustration. Many magazines offer write-in helplines, but questions can often take months to get answered and that's no help at all if you want to carry on playing.

So where can the committed RPGer or Adventure fanatic turn for

help? Fortunately, many companies are realising that there's a small fortune to be made in producing player's guides to their own games and the number of clue books has grown rapidly over the last five years. US Gold have some of the best, produced by their SSI and Lucasfilm counterparts in the US. The entire AD&D series has been documented in this way, and these are definitely worthwhile investments for any avid fans of the genre. The books are bought direct from US Gold themselves, and vary in price from four pounds to around fifteen. That might seem like a hefty wad just to know how to get past the Ogre with the enchanted padlocks, but let's take a look at what you get for your money. In the case of the AD&D books you get a sixty-page tome bursting with information. These A5 guides begin with general hints on how to play the game and what to look out for, and then explode into detailed, annotated maps of every location in the game, including towns and buildings.

You might feel that a book of maps is fairly pointless, especially when you consider that you can easily make one as you go along anyway. However, the detailed walkthroughs prove invaluable and should be a priority purchase of AD&D fans everywhere. There's no danger of the solution spoiling the surprise elements of a game either, providing

you can resist the temptation to sit down and read it from cover to cover.

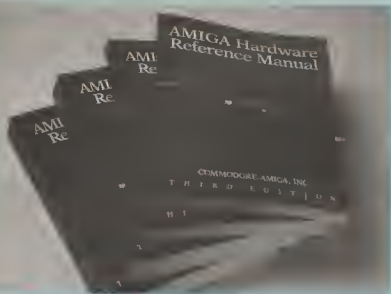
Fifteen pounds might sound like a lot of money, but that really depends on how much you want the information. The books keep their promise and tell you everything about the game, so value for money is high.

If you want more information, or would like to order any of the books in the range, then here's what to do.

CLUE BOOKS FROM US GOLD

The following books listed in the box below are currently available from US Gold. In the near future *Indy 4* will be added to the list, but we'll have to wait for the game to be released first. This list was correct at time of going to press, but new books are added constantly and old ones deleted. Postage and packing is free of charge and delivery is guaranteed within 48 hours subject to availability. If you wish to make an order, please make cheques/POs payable to US Gold Limited. Send to: Customer Services, US Gold Software, Units 2-3 Holtford Way, Holtford, Birmingham B67 7AX. Alternatively you may wish to place your order over the telephone using Access or Visa cards. Tel: 021 625 3388.

Bane of the Cosmic Forge	£12.99
Buck Rogers Countdown to Doomsday	£7.99
Buck Rogers Countdown to Doomsday II - Matrix Cube	£9.99
Champions of Krynn	£7.99
Death Knights of Krynn	£7.99
Dragons of Flame	£7.99
Eye of the Beholder	£7.99
Eye of the Beholder II	£9.99
Hillstar	£4.99
Heroes of the Lance	£4.99
Indiana Jones and the Last Crusade	£4.99
Loom	£5.99
Might & Magic 2	£5.99
Pool of Darkness	£9.99
Pool of Radiance	£7.99
Shadow Sorcerer	£7.99
The Curse of the Azure Bonds	£7.99
The Dark Queen of Krynn	£9.99
The Gateway to the Savage Frontier	£9.99
The Secrets of Monkey Island	£9.99
The Secret of Monkey Island 2	£9.99
The Curse of the Azure Bonds	£7.99
The Secret of the Silver Blades	£7.99
Treasures of the Savage Frontier	£9.99
Tunnels and Troils	£5.99
Zak McKracken	£9.99



If you're intending to do anything other than play games on your Amiga, then these books are the Bible of Amiga computing. They may be expensive (the 100% said you back more than 120%), but there's certainly an investment.

AMIGA REFERENCE MANUALS

John Kennedy checks out the facts within the new official Third Edition reference manuals. Is this ideal bedtime reading?

It's an interesting fact – and one largely overlooked – that the operating system used by the Amiga range of computers is probably the most sophisticated available for any desktop micro. Forget the PC and Macintosh systems (or although both have graphical user interfaces (GUIs), neither have totally mastered the concept of true multitasking).

The Inuition system and the EXEC core of the Amiga are well proven, reliable (yes, really) platforms and provide more scope for expansion than any rival. You may only play games with it, but your Amiga is one heck of a machine under that beige exterior.

It goes without saying that in order to make the most of the Amiga you need the right books – no one can carry all the information around in their heads without severe loss of higher brain functions. Most bookshops have shelves of 'Guide to the Amiga'-type tomes, but for the true facts you need the official guides.

After the various Workbench 2 launches (officially on the A3000, accidentally on the A500Plus and finally on the A600) a new set of books were needed. It was time for the three VBI.3 manuals to be postponed off, and finally their replacements have arrived.

As Workbench 2 has grown – in ways we'll soon see – so the necessary documentation has grown, too. Now there are four books: the Hardware manual and 'Includes & Autodocs' remain whole, but the Libraries and Devices' volume has split into two parts.

Taking the Hardware manual first, very little has changed. For starters, any new changes to the chipset (i.e. the much talked about ECS) have been relegated to one cramped appendix of 15 pages. These changes haven't even made it into the example Include file, which is sloppy.

There are no more example programs. The electronic and not very useful sections on keyboard and audio remain intact. The lack of continuity remains (it's plain that different chapters were written by completely different authors) and there is still no standard way of presenting a chip summary at the end of a section.

Apart from the minuscule ECS appendix, the only new information is a section on the mysterious Zorro II and III layouts. An example listing is lost as a result. There are no mentions of the A500 Plus, the A600, the A520, the A570, the CDTV and nothing at all about new forthcoming chipsets.

The Hardware manual is now 465 pages, due to more spacious layout, the ECS section and the Zorro information. Overall, this manual was a great disappointment. To make a 1.3 programmes buy this new volume simply for 15 pages of off-cut ECS notes is not very nice.

Commodore obviously do not like hardware level programmers, which is a very snobbish attitude towards the people who have written the games which have given them all jobs in the first place.

The remaining three books form the Amiga ROM Kernel Reference manuals, and they are a different kettle of fish altogether. The 'Includes and Autodocs' is by far the least interesting – that's not to say it's not useful, but unless you actively enjoy reading sections from a 1000-page collection of function descriptions and include listings you won't be taking this one away with you on holiday.

Better to plump for the remaining two books, 'Devices' is a list of, erm, the Amiga's devices. This entails the serial and parallel ports, timers, keyboards, printers, SCSI, console, audio, gameport and trackdisk devices.

Each section in this 570-page book is extremely detailed with an abundance of example listings. The 'Devices' work also includes 200 pages on the Amiga's IFF standard. This section is essential reading, as it includes example listings for accessing IFFs (of the video, sound, animation and so on varieties) and also detailed descriptions of registered IFF types.

Which leaves one more book – 'Libraries'. This one is definitely the book to buy first, as it has more than a hint of tutorial about it. If you are wary of upgrading your 1.3 books to these third editions, this is the one that will convince you.

In their quest to make the Amiga easy to program, the OS programmers have given us all two wonderful new presents. The ASL library and the GadgetTool library. The ASL, which I guess stands for 'Amiga Standard Library', provides a common File Requestor and Font requestor. As you will have no doubt found, every program seems to have its own way of asking for files. Some requestors are great, but unfortunately by no means all. Now programmers have the option to use a sensible standard requestor, and life should be a little easier for all of us.

Libraries like the inclusion of GadgetTools will help to standardise and simplify normal gadgets and menus. Inuition programming is now a whole lot simpler, and with other extras such as the IFF Parse library to do all the hard work, the Amiga should be getting a touch of really good Workbench 2-only programs any day now.

Other sections include details on the Commodities Exchange Library, and a special section for those who like to have some incredibly complicated concept to keep in reserve for when they think they know everything: BOOPSI – the object oriented Inuition system.

In conclusion, the new reference manuals are an essential purchase for programmers. Although pricey, the information they contain cannot be done without.

The Amiga ROM Kernel Reference Manuals and The Amiga Hardware Reference Manual are published by Addison-Wesley (Tel 0734 794000) and are available from most large bookshops or direct from the publishers.



As the Amiga's popularity spreads, the machine is being used for an ever increasing number of purposes. Mike Gerrard looks at a program used by the Scottish Police Force to help them learn crowd control techniques and prevent a repeat of the Hillsborough tragedy.

CONTROLLING CROWDS WITH AMIGAS



BIG BROTHER

Education doesn't begin and end with children in a classroom and four Amiga 2000 workstations are proving their worth at the Scottish Police College in Tulliallan Castle, Clackmannanshire. In this grand setting, where training takes place for the 14,500 police officers in Scotland's eight forces, senior officers are using an award-winning program called VISTRAIN to learn all about crowd control at major sporting events such as football matches. The program, which incorporates specialist shot video footage, is said by experienced officers to be as near to the atmosphere of a live soccer match as it is possible to get. Oddly enough, VISTRAIN came about because of a rather different Amiga program 'The Good Duval Guide'.

DUVETS

The Good Duval Guide was developed by the National Computing Centre (NCC) for the House of Fraser, and was used in twenty of the company's nationwide stores. It provided point-of-sale help for

customers interested in buying duvets, as John Eery of the NCC explains: "Not many people know the information they need before buying a duvet, so tend to go for the cheapest. This program quizzes you - in the nicest possible way - about your sleeping habits, then advises you on the best choice of duvet. Producing this program had given us an appreciation of the Amiga's capabilities."

Another NCC project had been for London Underground, where they produced a simulator for tube drivers, using graphics in a mock-up cab. This was seen by the Scottish Police College (SPC) who originally approached NCC about providing a similar program to train police drivers.

In the course of the conversation, says Eery the Manager of NCC's Training Products and Services division, "it came out that they were also looking for ways of training senior officers in the techniques of crowd control at football matches. It occurred to me that instead of doing this by the conventional one-to-one means, you could network computers together so that each one would give only the view of the officer at a particular point in

the stadium. Obviously the officer-in-charge inside the ground can only see certain things happening while the officer-in-charge outside the ground has a different viewpoint and a great deal of information is conveyed by radio messages."

NO-WAY RADIO

The difficulty of communicating in this way is described by Chief Inspector Peter Walls of the Scottish Police College, who was heavily involved in developing the VISTRAIN project. At a capacity football match where you've got something like 50,000 spectators, the atmosphere is noisy to say the least, so noisy that it makes exchanging radio communications very difficult. And if it is a cup final where you've got intense rivalry between sets of spectators then the atmosphere can only be described as electric.

The noise, pressure and atmosphere was simply not possible to recreate using conventional classroom training methods, where officers would receive lectures and then be quizzed on their reac-



Using a mouse the team can select contact-sensitive help. There is also a browse facility so that text, maps and other pictorial information from the briefing can be recalled to assist the teams.



The team's performance is assessed during the exercises by the facilitator who is provided with an on-screen storyboard indicating the appropriate actions that each team should take.



The exercise is divided up into four scenarios: before kick off, first half of the match, second half, and dispersal after the match.



Continuous background video has been used throughout the exercises and teams see a live view which relates to their role. They have only a partial view of the situation.

lions to events. "You can't recreate that noise and atmosphere on a piece of paper," Willis maintains. "Previous methods were very clinical, highly intelligent, but could not teach officers what it was like to react under pressure."

VISTRAIN, Video Based Integrated System for Training Applications, was developed jointly by NCC and the SPC over a period of twelve months, as part of the 'Technology In Learning' programme of the Department of Employment. The system at Tintilston Castle now comprises four Amiga 2000 workstations, linked to Sony Laserdisc video disc players which contain live footage recorded at two football matches, including helicopter shots, with additional footage shot at the college using students and staff. These four Amigas are further linked to an Amiga 3000 workstation, which is used by the facilitator who runs the exercise, and a sixth machine in the form of a Commodore bridge-board is connected to an audio network which records all the personal radio messages for playback and analysis during the debrief sessions after 'the big match'.

TALKING BACK

"That is often a very revealing exercise for the participants," Early says. "There are occasionally arguments when one person says 'I told you that' and another one says 'No, what you said was...'. We can play the tape back and establish what was

said, and this helps officers avoid possibly ambiguous messages. What is more important is that afterwards people have a chance to look at things from all points of view. They can see what was happening when a particular message came through, while the person giving the radio message might learn how in fact it was not really conveying full information about the events they were witnessing."

Although the 'match' itself takes place at a mythical Scottish football ground - to avoid giving advantage to officers familiar with specific grounds - the details are as real as it's possible to be. The program can set the size of the expected crowd, the time at which particular trains are due to arrive and which streets the crowd will flow through to reach the ground. There are elements that may or may not occur at specific matches, such as someone suspected of selling forged tickets, while the facilitator can then throw in some rogue elements: the crowd is suddenly much larger than expected, a train is late, the fans inside the ground get impatient as the kick off is delayed, or someone throws a canister of CS gas.

SPREADING THE MESSAGE

Chief Inspector Willis points out that VISTRAIN was not developed as a result of specific incidents such as the Ingledees of Hillsborough or the Bradford Fire. "The program was on the cards

before Hillsborough," he says. John Early points out that these exercises over-qualify officers for dealing with trouble at matches. "This gives them experiences beyond anything they're likely to be called upon to deal with, so they will be able to cope that much better. They'll think 'this is nowhere near as bad as the simulation was'. We haven't yet gone into the English and Welsh forces because of the way they're organised. They're much more fragmented than the Scottish system, but we've had enquiries from various European forces where their problems at the moment are, if anything, even worse than our own."

VISTRAIN has already gone into Europe, as in 1991 it won an ETTE (European Training Technology Event) Application Award for the most innovative and cost-effective multimedia application of training technology. But Chief Inspector Willis should have the last word: "VISTRAIN simulates a football match, the atmosphere, the noise levels, it makes speaking difficult, it's just very realistic. And the evaluation reports we've had on these exercises confirm that this is the case. Officers who have had previous experience of controlling crowds say that this is as close as it's possible to get to the real thing. There's no doubt that a program like this is going to save lives."

(For further information about the system contact the NCC on 081-228-6333.)

Information

If you want to take a peek at the latest software games charts or merely want to take a stroll down memory lane, Inside Info is here to serve.

THE WAY WE WERE

THREE YEARS AGO

● Activision finally signed up the rights to *Grandmasters II*, presumably because the original turned out to be the best-selling computer game of all time. GB2 was, with hindsight, utterly dreadful and failed to sell.

● Other new licenses announced three years ago this month included *Peenuts* (The Edge), *Count Duckula* (Alternative), *Moonwalker* (US Gold), *Beaver Hills Cop* (Tynesoft), *Evire* (Hornsoft) and *Spiderman* (Empire).

● *Altered Beast* from Activision finally arrived, and Mark Patterson lapped it up, giving it a whopping 97% and a CU Amiga Screenstar. Funny enough, he didn't rate the C64 version quite as highly.

TWO YEARS AGO

● Jason and Kyle had just been signed to Zepplin! Needless to say, it was truly dreadful when it was finally released earlier this year.

● While the Simpsons licence was up for grabs, Domark unveiled *Hard Drive '92*, Krisfels prepared to do it to them before they did it to us with *Hill St. Blues* and *Rogue Trooper*, and US Gold released *ESWAT* which was brilliant on the Megadrive but only playable on the Amiga.

● *Powermancer* and *MG-29* received the preview treatment and went on to critical acclaim upon their release. Remember, you saw them here first.

● Screenstars were being handed out like confetti two years ago, with our October issue sporting no less than nine such accolades. The lucky ten included *Mean Streets* (90%), *Simulacra* (90%), *Torvak* (86%), *Pang* (87%), *Loom* (85%), *Indy 500* (85%), *Mr Pinball* (80%), *Wings* (94%) and *Captive* (86%), but none of them got close to Superstar-awarded *Wonderland* (96%), which featured the new Magnetic Windows system.

ONE YEAR AGO

● 'HOW TO INVENT AMIGA GADGETS' screamed the headline across our cover as the magazine opened up into an 'Innovations' section, telling you how to get ahead in the hardware stakes.

● Steve Merrett went up to Core Design to preview *Heimdal*: a graphic adventure that promised to be the most attractive ever. It certainly lived up to expectations a couple of months later.

● Lotus 2 appeared to a round of applause from Dan Slingsby, who gave it a whopping 93%. He reckons that 'once you've played Lotus 2, you'll never want to play another race game again'. Check this issue for a review of the latest incarnation of Shaun Southern's tabbed racer.

TOP 20 AMIGA GAMES

With *Sensible Soccer* still holding onto the number one spot, there were few new releases to challenge its position except for Ocean's awful multi-sports game, *España 92*.

1. SENSIBLE SOCCER (Renegade)

Month three at the top. It looks like Anco have a real fight on their hands this time. CU Screenstar, 91%

2. CIVILIZATION (Microprose)

Sid Meier's latest and greatest rockets up the charts, and deservedly so. An excellent strategy title. CU Screenstar, 86%

3. ESPANA 92 (Ocean)

The most successful Olympic tie-in, but not a particularly good game. CU gave it 58%

4. FIRE AND ICE (Renegade)

This great platform game finally begins its slippery descent. Greifgold at its best. CU Screenstar 85%

5. LURE OF THE TEMPTRESS (Virgin)

Lucasfilm had better watch out. Virgin's eagerly awaited move to Minsky Island is still in the charts and doing well. CU Screenstar, 89%

6. MONKEY ISLAND II (US Gold)

Another side-on arcade adventure in the top ten. Boy, you lot are lapping this type of thing up, aren't you? CU Superstar, 95%

7. CRAZY CARS III (Titula)

This is the best effort they've done so far, but still has a long and winding road before it beats Lotus. CU awarded 71%

8. PROJECT X (Team 17)

One minute it's falling out of the charts and the next this superlative blaster fights its way back again. CU Screenstar, 92%

9. FORMULA ONE GRAND PRIX (Microprose)

Geoff Crammond continues to burn up the charts with this logical continuation of *Revs*. A stormer, CU Screenstar, 93%

10. DUNE (Virgin)

With only a couple of months to go before the release of the sequel, *Dune* is still burrowing its way into your homes. CU awarded 61%

11. F-15 STRIKE EAGLE II (Microprose)

A massive re-entry into the charts for this old Microprose battle-ship. Bill Stealey doing what he does best.

12. DARK QUEEN OF KRYNN (US Gold)

More AD&D fun from SSI! Not for everyone, these games have certainly built up a cult following.

13. LEGEND OF ISHAR (Dawn)

Ishar is a huge, graphically excellent adventure, and you obviously agree. CU Screenstar 89%

14. STRIKER (Rage)

The only other game to challenge the *Kick Off* crown. Perhaps not faring quite as well as *Sens/Soccer*, but still very good. CU Superstar, 95%

15. ON NO! MORE LEMMINGS (Payognoia)

A whole stack of extra levels for all you Lemming freaks out there. 100 new ways to die, as they say. CU Screenstar, 91%

16. ALIEN BREED (Team 17)

Thaunil meets Aliens best describes this engrossing blast as you traverse a space station clearing all forms of alien life. CU Screenstar, 91%

17. EPIC (Ocean)

This fantastic 3D sci-fi blaster has its critics, but we all loved it. It's not very long-lasting, but what there is is very impressive stuff. CU Screenstar, 91%

18. PINBALL DREAMS (21st Century)

An interesting attempt to recreate four pinball tables on your Amiga. Obviously a very popular idea. CU awarded 71%

19. FLOOR 13 (Virgin)

A strange tale of spy and counter-spy. Not to everyone's taste, but with a definite appeal. CU Screenstar 85%

20. DYNABLASTER (Ubisoft)

This very cool and very cute bomb-'n'-blast classic has caused some very late nights at CU Towers. CU Screenstar, 85%

WHAT THE TEAM ARE PLAYING THIS MONTH

DAN SLINGSBY

Lotus II, Beast II, Putty

NICK VEITCH

With Heimdal, Sensible Soccer (getting better at both), Lotus II, (and definitely playing at being drunk)

TONY DILLON

Lotus II, Putty, Sim Earth

Knock on

When is a door not a door? Answer: When it's a program within a program on a bulletin board. Dave Burns investigates.

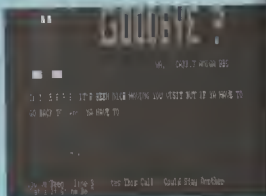
OPENING DOORS

A door is a program running from within a program, and in BB5 terms it means the online games and utilities found on any system worth its salt. What actually happens is that the user selects the option they want, be it a separate chat system or even a game, and the board software calls the program, at the same time passing to it any information it may need such as the users name, security level etc. This month we're going to take a look at some of the doors available on the public domain or shareware areas. Apologies in advance to anyone running a door that's not listed here. It was only when I started to research this article that I found that there was such a variety of doors available

CALLSYSOP V2.0a

Every BBS setup has a sysop paging option, but they are pretty bland and plain. This program makes paging and answering a little more interesting. Installation is not as easy as with most doors, but it is well worth persevering.

When a user pages, they are asked to enter a reason for their call. This gives the sysop prior notice of the subject matter, an excuse to end chat when it is dealt with, or even the ability to decide whether or not to answer the page. Another great thing about this paging system is you do not need to be satisfied with the dull beeps usually produced



The very friendly animal services goodbye, hoping that you will call again soon.

as you can set up a sample player and incorporate all manner of weirdo samples to alert you that your user wishes to converse.

Should you not answer, the fact that Fred logged on will be entered into a log file for you to look at when you are available. To round it all off, this program is Freeware, so nobody will be after your hard earned money.

BLACKMARS DUNGEON

This is, as expected, a game. Also as expected, this is a Dungeons & Dragons type game. There are the usual baddies lurking around with the intention of doing nasty things to you, there are spells, swords and shields – there is even a map

GOING PUBLIC Setting up a BBS is a commitment. You will be devoting a lot of time and equipment to the system. Before going online, make sure that everything is right. Nothing will lose you users faster than a system that does not work or is too complicated for people.

Your system is on public view and great care must be taken to ensure your system is legal. You cannot be held responsible for any messages left on your system, but you can be in trouble for having commercial software available. A BIOS was recently raised by FAST. Not naming names we will call two hard drive systems X. The powers that be had heard that commercial software was available for download. The best thing to do is have an erasable sector for application files that your users cannot access to give you a chance to make sure that nobody has sent you crackable files. Once you have checked you can then place the files in the relevant public download area.

Establishing a BBS takes time. Nobody is going to know it is there unless you advertise. Leave a message on other boards, write in the free ad papers, and best of all, write in me at the magazine address. I will come out and show you. I like what I see. Your BBS will grace the pages of this very magazine. You can also contact me and the magazine by leaving a message in the CU Amiga area or the HITEL BBS, (6634 31224 24 hours) or Wambles Burrell IS (0634 377305 10pm - dawn daily). There are other systems that carry this data, so watch out for it when you log on.

Time doors

of the early stages of the maze for the user to download. Magic and mystery abound in this one and it is not unusual for a user to enter a room and log off only to return and find that he has had several battles with other users and amassed oodles of points... or that he was killed by someone while he was away. The reason for this is that should a player enter a room where another user has left a character the computer will play for them. This is not a very exciting game if none of your users play it so the more you can encourage to join in the better. Setting up is moderately easy and quite well documented although you do need to update the file daily, so including it in your nightly events is a must.

PABBSLIST V1.00

Another utility, this one is an online database of other BBSs that users can peruse at their leisure and add details of their favourite boards. Well presented, easy to use and install, with the bonus of being Freeware, this program (or something like it) is essential if you want to provide a good service to your users.

SPACE EMPIRE

You guessed it, another game. This one involves the user in an attempt to conquer the entire universe. To start with you need to build an empire, amass an army, lead them, equip them etc. To do this you need to specify the location of the planets in your empire, some would be agricultural, some would be mining for ores, others would be for defence. That you must sell your produce to raise the capital to fund your endeavours. If you raise enough you can engage in espionage to find out what other players are doing when they decide to become unreasonable and attack you. This will give you advance warning of what to do, sorry they

have, or even what planets they have that you can attack. The more people you have playing the better it gets as users can form alliances to rid the world of particularly troublesome players, then slip over them when it is time to slab their enemies' files in the back.

Setting up is reasonably simple, although should a user manage to conquer the entire universe the sysop has to delete all statistics and start again. It would also benefit from a more permanent hall of fame.

TIMEBANK II

I had never used or seen the need for a timebank until recently when I tried to download a rather large file and did not have enough time left to do it. This is where the Timebank comes in useful. Let's say you have logged on to a board that allows 45 mins a day. You use 10 mins. You can lodge the other 35 in the timebank ready for the time when you need it, e.g. when you need to download a large file or you have got stuck into Space Empire and you need the time to wipe out a particularly irritating user. Just withdraw your deposit at the Timebank!

Setting up is simply a case of telling the BBS where to find TimeBank and the benefits to your users are great. Happy user = more galls.

THE REST

As, said at the top end of this article, there are many many doors available, some good, some not so good. Before spending a fortune logging on to a system and downloading every door in sight, find a board that has the door you are thinking of running and look at it from a users point of view. Ask the sysop about setting it up. Will it work with your software? Do you need any additional software? Is there a support service or help line for it?

Don't be like one sysop I know though who filled his hard drive with so many online games and utilities that he forgot to leave room for the message bases!

This just about winds up this short series on setting up your own BBS. The feedback I've had from the CU Amiga area on Fido has been mixed but on the whole very good. Keep those messages coming, let me know what you want to see in the column. We at CU have the strange belief that you, the reader, are important. I have only given a very brief outline of what is needed as all the programs mentioned are very well documented, and aside from that, not everyone wants to use the same system. What I did discover while wandering around the systems is that all Amiga sysop sites without exception were helpful. Instead of worrying about competition from new systems they let it all they can to get you online quickly and painlessly.



The main menu shows how much there is on offer to those who enough to call

WHACKY CARROT AMIGA

One sysop that gave me a most curious word by the name of The Whisker. First he harvested all the things about the system, then he put in the heart of the matter. Who have I come across could he said, Whacky Carrot Amiga on 0722 371876, 36 hours, speaks up a K2L. Well, I think him, because I don't even know of it, but being the nice sysop I am, I immediately loaded up my common software that he sent to visit.

The more news concerns an image of a totally empty world that had hardly been seen, the far all etc. One that's exactly how I found some I got past the bigging in procedure that all the buildings. I don't have working those names, but one you put them in a separate menu so we have a choice after the end will? Thanks.

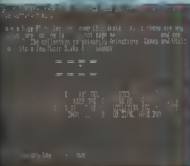
This could be an networked, therefore the only way to that will read any door that option are the people that log on to it. (I don't know them, but that does not mean from the board. Message board on a variety of topics as well as the fact that the board had a wide range of users. There are a lot of files available once you have been notified. I don't know if that's all that if the file you have to not have have the sysop will do his best to obtain it for you.

If he were to see it would that have so much in mind the importance of this menu, but I found that when it did found it my cat can't seem to find it to find if everything was in its list that found if there was any improvement I could suggest.

There are also a lot of online games that all that available, although not that I tried, Krazy Games, the one I'll say a little heart with delight, the graphics were poor, but others could have that my phone bill say high that I stopped in May. Presentation of the board was quite nice, but one of the besties the maintain that all that is required of users to that they enjoy it that means that the high standard of the Amiga area. It seems that MOHAWK.

MOHAWK, my second that used for my name that presented, but no further security check. The first 4 digits of my phone number after lunch it was happy to be one of those that was the same password as all the boards that you call.

The system here is Jan2000 BBS software that there's more 240 KB of online storage that to put to speed and with fast doors, to that all the could mentioned in that second are great must have that option.



Look man, no more! Let's send him the file!

BACKLOG

STICK 'EM UP

I'm a bit fed up with games that aren't hard disk installable. Although not a new problem, I think the computer companies have a check to be said for second drives — when I purchased mine and saw that the majority of titles did not cater for it. I hoped the situation would get better — which it is doing, but only slowly.

With the price of software so high, I believe these companies owe it to their customers to make as many games as hard/second drive compatible as possible.

As an example, let's look at the ageing strategy game, *Joan of Arc Before Loading*, a simple prompt appears asking how many drives you have and then the game loads accordingly. This is a nice idea which surely doesn't take up too much time and memory to produce, yet it is a big help to gameplayers.

I would like to see companies place small stickers on their game boxes saying if the contents are hard and/or second drive compatible. It, for some reason, is not possible, perhaps the computer magazines could help. They could mention drive requirements in their reviews or, preferably, in the same box displaying the game's name and price etc. Stuart Hardy, Sheffield.

Our recent survey revealed that just over a quarter of you either had a hard disk or were thinking about buying one in the next 12 months. With this kind of support, I would guess that more and more games publishers will support hard drive installation. As for supporting second disk drives, it's one of my pet hates when a multi-disk game comes into the office and only one of one drive. Stupid.

WHO NEEDS CONSOLES?

I really can't see the attraction of buying a console. Why is everyone ranting on about how marvellous games are on the Megadrive and the SNES? Most of the games I've played on these machines have been awful and they cost so much more than Amiga titles. If you like beer 'em ups or shoot 'em ups, then you'll definitely find something worthwhile, but who else has these machines to offer? Nothing, as far as I can see. Okay, they're capable of a few graphical twists that leave the Amiga behind, such as full screen rotation, sprite expansion and 15 zillion colours, but so what?

The Amiga is obviously getting on in years. The basic architecture dates

back to 1986 so you've got to expect that there'll be some machines that can out-perform it in some spheres, but it can still hold its own with the best of them. Despite the console wars, the Amiga definitely has the edge in the quality of games being released for it. Just look at recent releases such as *Zool*, *Risky Woods*, *Civilization*, *Eye of the Beholder 2*, *Monkey Island 2*, *Project X*, *Sensible Soccer* and there's many more classic games scheduled for release before the year is out.

BUT, MOST IMPORTANTLY, Amiga games are much cheaper than their console counterparts by as much as £25 in some cases. Also, I hate to say it knowing your antipathy stance, but consoles can't be copied whereas floppies can. There'll always be a place for a decent home computer, as it is just a lot more flexible and offers so much more. Let's hope the new Amiga can keep the flag flying, as I for one am very loyal to the machine and have built up a large software collection that I'd hate to see go to waste. David Chester, Barnaby.

My feelings exactly, Dave. The massive user base in this country should ensure the Amiga continues to thrive for many years to come. I've got a Megadrive at home and have amassed quite a few games for it, but apart from *Sonic* there's little else that stands out. The Amiga has a wealth of games and these aren't just aimed at the shoot 'em up fan or platform fan! It's the number of different game genres on the Amiga make it the best all-round games machine by far.

DOING IT FOR YOURSELVES

Thanks very much for the DIY tutorials in the latest issues of CU Amiga. I'm a keen electronics fan, so I had a lot of fun attempting to emulate your designs for the various gadgets. Is there any chance you'll be continuing this feature in future issues, as it's certainly a way to save a lot of money. Congratulations on a superb feature.

Generally, I think the standard of your magazine has improved immeasurably over the last few months. I'm particularly impressed with your eclectic Blue Pages which offer all sorts of advice and features not available in any other Amiga magazine, although I'd like them kept a games-free zone rather than have them clutter the likes of *Helpline* and *Inside Information*.

I'm also impressed with the quantity and quality of software that's now

available for the Amiga. Each month there seems to be 100s of new titles released — I just wish I had more money to spend on them. Also, I'm limited to one game a month and I splash out on a productivity title every couple of months, but only if it's something really special, as I buy a lot of PD utilities when usually give me what I'm after.

I've noticed a lot of people knocking Commodore in your pages recently. I think this somewhat unfair. You've got to understand that, as a company, they're out to make money. They, more than anyone else, want the Amiga to succeed and I'm sure they're already designing machines to take us into the next century. Just be patient. Things'll work out in the end. All this talk about the PC/Console three. Peh! CD-based software is the future, and Commodore have CDTV2 up their sleeves as well as the finally launched ASTO CD-Rom drive. Fooding into the shops. It'll be a good two years before the really breaking product materialises, but when it does, it's going to knock everybody out for sure. Paul Harkin, Mansbridge.

I agree that CD-based systems are the future of home entertainment, but which one will succeed is anybody's guess. There isn't that much decent software out there at the moment (you only have to read our Multimedia feature this issue to figure that out), but some of the stuff we've seen in development will knock your socks off. Virgin's *Guest*, *Gremlin's LIT Devil*, *Payphone's Microcam* and some of the Statewide stuff is incredible. I just hope CDTV doesn't become a discredited standard like Betamax for video systems.

Oh, and the DIY feature is going to be a semi-regular part of the magazine. We're already working on the next instalment which will save you literally hundreds of pounds!

LOST FOR WORDS

Thankyou, thankyou, thankyou! I've never written to a mag before, but I felt compelled to show you all in lowly praise and ardent happiness [Five pound notes would have been just as good — Ed].

The reason for my cloud nine-type joy is the word processor on your August cover disk. I am currently creating a gothic horror PBW — but we're in a state of dismay because I knew I had to buy a word processor. As these cost money, and I didn't have any, I was resigned to the fact of putting the project on hold. Then

looking in my local newsgroups I saw your August issue, complete with a REAL word processor on the cover!

I cannot tell you how grateful I am, I've only had it a few hours and I've already got three files saved on the other disk (yep, I blanked the demo one!) Joseph Ethen, Somerset.

Thanks for the kind words about our *Transwrite* coverdisk. Each month we try and bring you something different, to help build up one of the best Amiga software collections around. If you're into music, we've given you *OctaMed*, if you use a cat, then we presented you with *GB Route*, if you want to write letters, then *Transwrite* was the perfect answer. It might cost us a small fortune to buy them, but as long as we can do the deals, we'll continue to bring you the best Amiga coverdisks money can buy.

SCORE DRAW

With reference to the 'Scores on the Doors' debate in the July 1992 issue I agree with your concern about the ever-increasing marks being handed out by some mags. But I also think that you solution for reducing the scores that games receive, by including originality is not the answer.

For example, suppose I have decided to purchase a driving game, and have been scanning the reviews to try and establish which one would be the 'best' one to buy. As I cannot try any game before I buy them, I can only rely on the results of the various reviews in the Amiga magazines. I want to do that, then I would assume that since Lotus 2 scored higher than Jaguar, then it must be the better game, whereas you state that it is only better because it came out first, and that really Core's Jaguar was far superior!

In my opinion, the whole scoring system is basically unsound. By choosing to quote the scores as a percentage, you are implying any game has been compared to a perfect example of its type, and scored accordingly. This cannot be true as no-one knows what makes a perfect game. It is quite possible that *Indy 4* will be even better than *Monkey 2*. It is that the case, how much will you award the game this time round. I would suggest a different approach to the assessment of games which would still present the reader with the chance to decide which game he wants to spend his money on, whilst still grading it against others to persuade publishers to improve their wares.

Why don't you adopt a two-star

grading system, the first assessing each aspect of the software, the second keeping a league table so that relative merits and demerits could be assessed by potential buyers? For example, if I were to assess a particular game, this might be my submission:

Presentation	Average
Instructions	Average
Graphics	Very Good
Sound	Good
Playability	Average
Usability	Good
Fun	Great
Price	££££

If the graphics are good, then they are rated 'Good', and if they are absolutely brilliant, they are rated 'Absolutely Brilliant'. I would then quote where in last month's game table the new game would be placed. Presumably, only the top ten or 15 games of any one type are important, and there does not need to be a standard to score the game against. This way, the game is rated on its own merits and allocated a standing against other existing games, rather than against some arbitrary 'perfect game'. Next month, the new table would be used for the next set of reviews.

G. L. Hogue, Sandy, Beds.

MONKEY BUSINESS

I've just finished *Monkey Island 2* and, to put it quite simply, it's nowhere near as good as its predecessor. I drooled at the glorious PC shots and then, when the Amiga version was previewed, I drooled at that too. I read the news, previews and reviews, getting more and more excited. Finally, I managed to get my mitts on the game - inhaled it and booted up.

Everything appeared to be fine at first. I cracked a few puzzles, chuckled at some of the jokes and solved the first part reasonably quickly. But then I came to Part 2. Suddenly I found myself stumbling over a fairly large area without seemingly getting very far and - horror! - I was feeling frustrated, an emotion entirely alien to the first *Monkey* adventure.

Then I started to notice the cracks in the glass, I noticed the hiccups in the music, the pathetic synchronisation between sound effects and animation and the sheer crudeness of some of the puzzles.

(WARNING! Plot details follow.) Give a banana to Jojo and the banter objects, but make a mess by stepping II on his melonome and then kick his entertainer and he doesn't get an ayid. Huh? Having worked out the ship's horn, the flags and the dinks mix to win the spitting contest I was then punished by having to try out combinations of switching and hacking and the like. Why? It seemed so unnecessary - maybe there is some peculiar, ancient American ritual to do with spitting of which we Brits are hopelessly unaware.

I admit that from LeChuck's Fortress through Dinky Island to the

final confrontation with LeChuck there is a definite *Monkey* fish tail to it, but the ending? Oh dear, oh dear. Anti-climax of the year or what? Not only was it downbeat, but where were the cameos that marked the end of *Monkey 3*? With a fistful of disks I expected more, a specially as writers in magazines were supposedly sworn to secrecy about it. I felt as weirded-out as Gylfaginn and can only wonder if we are being set up for *Monkey 3* so that we can use the spare items and finally put paid to LeChuck. Here's hoping.

Steve Cooper, Somerset.

PRICE DROP

After years of owning all manner of Sinclair products, from the ZX81 to the +3, I finally succumbed to the lure of 16bit and gave in to the 'old enemy', Commodore.

I bought an A600 on H.P. from Dixons 3 months ago - just as they arrived in the shops. To say myself (31) and my three girls (7, 5, and 3 years) and my wife (ahem!) were pleased with it would be a GROSS understatement. It is now definitely the number one form of entertainment in our household (well number one with the kids, number two with me and the wife).

Anyway, to get to the point. I gave up smoking 30 cigs a day and saved hard for the deposit to buy this machine. I've been unemployed for over 2 years and you cannot claim on the social for a computer, so I hope you can understand my absolute amazement when, last week Commodore announced a £100 price cut!

What the hell is going on? I was expecting a £50 drop and a software bundle in the build up to Christmas, but this is ridiculous. I've spent myself at £35/month and a £40 deposit, only to be told that most of what I paid was unnecessary. I know what you're thinking - you've had the computer for the last 3 months so stop your complaining. The thing is, I feel like I've been had, and I bet I'm not alone in this.

I think Commodore should get their act together. They had obviously decided on the price drop the moment they released the machine. And now, the first people to support their new machine are the first to get ripped off. Thanks a million!

It was a series of machine launch disasters and corporate delinquency that led to the demise of the old Speccy and nobody's market position is unassailable.

Picture this. Men walk into computer shop and buys an A600 at £525pm on a Saturday night. Same man walks past same shop on Monday morning at 9.30am and finds he has been fleeced of £100. It's a sad old world!

Phil Noonan, Runcorn.

I can understand your anger at losing out on the price drop, it's happened to me on more than one occasion in the past, but that's the price you have to pay if you want

something badly enough.

Commodore couldn't really bang their corporate drum when the machine was launched and admit that a price reduction was on the cards in the very near future - nobody would have bought it! You've got to feel sorry for the small independent retailers, too, who also got caught out. Many had already bought stock for the Christmas so few will benefit from the price drop unless sales dramatically increase as a result. Still, in the long term, I think we've got to applaud Commodore for gritting their teeth and slashing the price of their best machine in response to the dual threat of cheaper PCs and the booming Console market. The £399 price point has been almost sacred to Commodore for the last few years, and to top off £100 in one go is a fairly dramatic gesture on their part.

USEFUL UTILITIES

I have noticed how certain magazines have, within the last 6 months, started giving away (at commercial utility packages on their coverdisks. In all this time none of the main computer organizations have ever complained.

What a far cry to when the same was lined with games! Then, as you may remember, a successful campaign ensued such actions were made illegal. Yet, as other people have said, there is proof that these covermounted games did not harm the industry as much as we were led to believe.

Look at *Kid Gloves*, for example. It still sold extremely well in the Budget charts even after being distributed on the cover of *Amiga Power* magazine.

Having felled with games, some of the mags are trying the same with utilities and - for now, at least - have been having a smoother ride. I wonder if there is a strategy behind this? In these troubled times not too many people can afford £100+ on the latest utilities and if they can buy them on a magazine at under a fiver they will. Thus they receive a wider audience and, in theory, a greater quantity of worthwhile stuff will be produced with them.

In turn, the PD libraries, magazines and commercial publishers are flooded with new (utility oriented) titles which leads to more choice for the Amiga-owning public. In short, everybody wins. Your views on this subject will, as ever, be gratefully appreciated.

Stuart N. Hardy, Sheffield.

There's no great strategy behind any of it. The fact of the matter is that most of the Amiga titles are locked into a circulation war and coverdisks are one way of increasing readers. Commercially released games were banned from coverdisks mainly because the industry thought they would harm full-price sales. Luckily, productivity software doesn't come under

the ban, so that's why some programs have been appearing on coverdisks over recent months. However, many companies are hesitant to sell their software to us, as they feel it's still got a more valuable shelf-life ahead of it. Whereas games software has a selling life of 3 months at full-price and a couple more at budget, productivity software can still clock up healthy sales a couple of years after its initial release.

Ideally, I'd like to go back to putting games on the coverdisks again as well, but ELSA are refusing to budge on this point. Ridiculously, we even opt a falling off for putting *Pod* on last month's disk. Although it had been especially commissioned by us from Sheen Southern, ELSA still felt obliged to slap our wrists as the game had originally appeared on the C54. This game was never likely to appear on the Amiga and I honestly thought we were doing everyone a favour by putting it on the disk. How wrong you can be.

PERV'S CORNER

Hello from the US! This letter is to enquire about the cover of your June 1992 issue regarding the two new Commodore releases ('Commodore's Double Whammy').

Julian Calverley's photo on your 6/92 cover and on pages 4 and 30 were great fun and a great idea! My comping friend and I went down to hang over our Amigas! We hope there are shots or copies less closely cropped. Without knowing Mr. Calverley's address, I thought that perhaps I might pose my enquiry to you. Would it be possible to see some contact sheets from the photo session which produced your cover and to select some blowups or even obtain some discsards?

Anthony E. Keating, Washington, USA

I don't for one minute believe that this is a bona fide letter but, if it is, you're a very sad man!

ENTER THE DOMAIN

I am becoming totally sick of people saying games and commercial software are far too overpriced. This debate about price/performance software has gone on far too long. Have these people (both sides) no eyes in their heads? Have they not seen the brilliant programs available in the public domain? Show me!

Freeze! You'd think that they worked and saved all week just to go and buy the latest programs and were tired of having no money left. I have a large collection of PD software which has some extremely high-quality programs in it. You can find superb PD programs that rival commercial releases and most of it costs less than £2. If you're on a tight budget, you don't need to spend £100 on some flashy word processor. Go down to the local computer shop and grab a PD text editor for 50 pence. Another place to get great

under much more stringent quality control. This would eradicate problems such as those found in *Epic* where the manual has sections such as a particle is 'FILL IN LATER' and the game's logic crumbles if you tell the first mission.

4. Why have the *Adams Family* got such brilliant reviews? It is much worse than *Fire* and *Ice*, *Zoo*, *Rainbow Islands*, *Sonic* and *Mano IV*. The use of the fire button to jump smacks of lazy coding as it must be easier to just control the jump mechanism from the Super NES version than to actually use the Amiga joystick's up direction. The problem with this is that Amiga-owners are used to using up for the jump and in the (very rare) moments of excitement, it is all too easy to push up instead of pressing fire.

5. Why aren't coders such as *Magnific*, *Pierce*, *Bitmap Brothers*, *Ty* and *Griffith* etc used by the big companies for the development of licensed games? I'm sure they could do a lot better than the in-

house programmers who generally churn out the same old thing for licensed games. Taken Ocean for example, they used to churn out games that had beer 'em up, shoot 'em up and puzzle sections, but now they're churning out platform games a la Hudson Hawk, *Adams Family*, *Lethal Weapon III*, *Demolition*, *Sidecup*.

Let's take your questions one at a time.

1. US Gold are in the throws of producing just such a stick for use with their upcoming *Streetsfighter 2* conversion.

2. I completely agree, nothing like me more than repeated disk swapping.

3. Too many games get released that are full of bugs. Although it's impossible to certify that anything is 100% bug free, I do think that quality control is not what it used to be. Mistakes in manuals are unforgivable as far as I'm concerned.

4. I agree with you on the *Adams Family*. That might surprise you, as Steve Merret voted it a Super Star when he wrote our review. Subsequently, I've had a look at the game and cannot see what Steve saw in it. Still, editorial independence and all that - everybody is entitled to their views. My current favourite is *Zoo* from Gremlin - an excellent game that let's you go straight to the top of the charts when it's released.

5. Top teams are rarely recruited to work on license games. The licensees themselves cost so much money it would be commercially suicide to then employ one of the top creative teams as well.

CD PRICE WAR?

Now that Commodore have finally released the A570, I wonder if we can expect to see the high cost of Cd discs to come down. Since the launch of the CDTV, disc prices have been astronomically high and have probably put off many people

buying a system.

I really cannot see any justification for the high cost of CDs. Let's face it, if a game comes on two or more conventional floppies, then the obnoxious at least, a CD should be the cheaper alternative. CD discs can be pressed for as little as 50 pence these days whereas a floppy costs roughly 30 pence per disc. Okay, so you could argue economy of scale, but I think a lot of Amiga owners will either take advantage of the CDTV upgrade offer or buy the A570. Hopefully, if this is the case and CD sales take off, we can expect the price of CD-based software to nose-dive. It may be a pipe-dream, but I hope it happens.

Nigel Badkin, London

It might already be happening. John Renegade has just announced that they will be releasing their number one hit, *Sensible Soccer* on the CDTV for only £19.99. Let's hope more companies follow suit.

BACKCHAT, CU AMIGA, Priory Court, 30-32 Farringdon Lane, London, EC1R 3AU

STe and a CDTV with keyboard and disc drive. That quality is one to live with a balanced opinion.

First off, let's take a look at the technology/price ratio. Many have commented that the price of the STe and the Amiga 5000/500 are too high when compared to 386 PCs. This may, on the face of it, be true. For a long time, Atari and IBM had the best home computers on the market - stereo sound, wonderful graphics, higher chips etc, and a price most people could afford. However, PCs have for a certain while caught up and even in some cases surpassed the proprietary systems from Atari and IBM. This is because of the falling price of low processors and because the PC world embraced the concept of multitasking, forcing the prices to incorporate better sound and graphics capabilities into the basic design. It is now possible to pick up a decent 486/55 25MHz, 4MB RAM, 32MB hard disk, 1.44MB floppy drive and 5-VGA monitor for under £1000!

A smaller package on the Amiga and the STe would suit most £1000 but without the monitor. So the obvious thing to do would be to cut the price of the STe and Amiga, right? Wrong. Unfortunately, these two companies suffer from economies of scale - they would have to sell far more units to be able to bring the prices down. Sure, you could argue capital and R&D, but low prices would bring more sales and thus eventually they would. Atari and IBM require the lost margin but also have higher revenues and higher profits, but we are firmly in a depression (not a recession, folks). What if the cost increase in sales didn't happen? Would you take such a gamble? No, of course you wouldn't. So the price of the units will decrease by any great amount, certainly not like the fall in PC prices.

However, if you look at the software - this is where great savings can be made. How many decent MP, DTP, wordprocessors or data bases below £150 are there for the PC? Not many. Then look at the vast selection of PC and Macintosh for the Amiga and STe. Much of it is better than many of the cheap PC products! And I should know - lots of my functions used to be evaluating eye windows.

The real point is that the sound and graphics capabilities of the STe has overtaken the STe and the Amiga. What will? What's this new Atari and Amiga product with new screen resolutions? What's more, the new machines have supposedly better-than-Quality sound. DMP chips (like the M6T) and the good old Motorola chip which, incidentally, is specifically designed for complex graphics unlike the Intel chip.

Well, what about speed differences? Speed is a holy grail. It's one of the few concepts computer salesmen understand and that's what they push. They don't mention the ease of use that the Amiga and STe have (remember a look under the hood), and instead all that time saved through faster understanding of how to work both the computer and the software. They also don't mention the versatility of the machine. Could a normal 386/55 effectively splice music and video together, and so easily that my dad could learn how to do it in a day? No, actually, it couldn't - not without extremely expensive modifications! The latest machine in the world is useless if the user has to rewrite the manual every half hour.

So, given that we've effectively agreed the pricing and technology issues away, what should IBM and Atari be worried about?

Quite simply, the superior marketing forces of the PC companies. They've got it sussed, and both Atari and IBM have their heads in the sand - they think the old TV advert at Christmas is going to win them a significant share in the market. When it comes to customer relations, let's be plain and say that the two companies are lacking. And how about a decent upgrade policy for those who aren't afraid of new technology and make the initial investment? WAKE UP! You need to look after the people who bought the STe and CDTV while the technical troubles were sorted out - it's all about them the chance to have a cheap upgrade!

Both IBM and Atari need to work closely with the developers, especially with hardware manufacturers like hard disk developers - and see about bringing better prices to those units.

There's one other thing that the two might like to consider. This is a radical suggestion and I know it could never happen, so why don't IBM and Atari join forces and produce a joint product? Even better, a joint platform that is compatible with both the Atari and Amiga software of today! And yes, I know all the STe-exclusive users are saying we don't need IBM and all the IBM-exclusive users are saying what could exist possibly for the party? Well guys, take a closer look at the STe and the Amiga 500 Plus - these aren't much different (although the game software development on the Amiga platform is ahead of the STe it has to be said). Take a look at the Falcon, the A3000, the TT and the CDTV. All excellent products, all technological dreams, all destined for the also-ran pits where Atari and IBM are something drastic to steal the requirement from the PC

Wouldn't a joint platform where we *AWESOME*! Or well, I can dream, no hard to do.

At the end of the day, the future of the Amiga and STe lay in the hands of IBM and Atari. Instead of looking everybody of a 'consumer' who uses a system that gives to get their fingers out, develop new, stable product, offer better and more generous support to the users, introducing a good upgrade policy, and market it effectively.

Dennis Smithson, Reading.

THE AMIGA'S DEAD? LONG LIVE THE AMIGA!

About 8 months ago I bought an Atari STe 1040. Recently, advertisements in my area have been offering the Amiga A600 for £399.99. Couple this with the growing presence within the ST world over the supposed 'death' of the ST and the temptation was too much to refuse so I took the plunge and bought an A600.

Having struggled with the STe, the Amiga 600 was a revelation. Ease of use, superb graphics and sound, and the Amiga Workbench was so pleasing to my aesthetic sensibilities after the monotony that is the ST Desktop.

The letters in your column remind me the constant droning which now fills the STe. The frequent cry of the ST fanatics is 'why are the software companies producing less games for the ST?' yet in the same breath they accuse the Amiga of being a glorified game machine. Glorified, yes, unglorified? No way. Maybe as a wide-eyed and naïveté newspaper, my information is getting the better of me (or maybe D. Walker and M. Jackson are spoiled, jaded and cynical), but I find the growing potential of the A600 the final kick on the case.

To witness Amiga owners going in the manner of the much maligned ST owner is unacceptable - one only has to walk into any software shop to see that the Amiga software far outnumbers any other type.

You can now pick up an entry level 386 for around seven hundred pounds, but if you want the pound capabilities of the Amiga, you are going to have to fork out over another hundred for second-hand etc. Come on, the cheapest and newest computer second for under £300 is the Amiga. There isn't any competition at all.

The Amiga is still a hugely popular general level machine. The buzz about the A600 is phenomenal and despite its coming by the PC pundits, the overall popularity of the Amiga continues to grow.

Ben Barker, Cleveland

CLUB CALL

If you want to get the most out of your Amiga, why not join one of the many clubs that exist to help you do just that? If you've got a problem that needs solving, want to buy hardware or software at cost price, or just want to converse with fellow enthusiasts, there's a club somewhere near you that can help.

CHIC COMPUTER CLUB

PO Box 121, Genside Cross, Buckinghamshire, SL9 5JP. Tel: 0753 884473

Ten years old this year, the Chic Computer Club aims to provide a comprehensive computing service for its many thousands of members. Run on a non-profit making basis the club is divided into a number of sections, each one aimed at a specific user group. The one of most interest to CU Amiga readers is undoubtedly STAMP which stands for the ST and Amiga Personal computer group. You can either opt for the standard two year subscription currently standing at £12.95 or choose the five year 'Gold Star' deal costing £24.95. Not only will you be instantly put in touch with hundreds of like minded Amiga enthusiasts, but you'll also receive a special twice-a-year fanzine plus a whole host of other services. These include heavy discounts on computer peripherals and software, a vast PD library, a repair and spares service, a second-hand software sales scheme and a second-hand library where members can hire software for a limited period or rent out their own programs to earn some extra cash. There's also a huge selection of books and manuals up for sale, the aforementioned fanzines, a contact group and a questions and answers helpline.

It seems to be run to near-professional standards and the opportunity to become involved in the running of the club is ever-present. The latest STAMP fanzine is nearing completion and offers the first installment of a 66000 machines code course, an AMOS section, an Amiga software collector's guide and lots more. For further information, ring the club's organiser, Steve Winder, on the above telephone number.

AMIGAMANIA

58 Blackbull Road, Folkestone, Kent, CT19 6DX. Tel: 0304 375311

Aiming to emulate the success of JAM magazine, Dave Crier started Amigamania more than a year ago. Although he's got off to a slow start and only managed to attract 16 members so far, the club does show a lot of promise. For only £10 annual subscription, members receive a bi-monthly newsletter which, from the October issue, will be a massive 32 pages. This will include productivity and games reviews coupled with readers letters, a questions and answers forum and other Amiga-related goodies. The club offers an extremely comprehensive PD library, covering games, productivity software and the Fred Fish collection.

Amigamania strikes me as a grass roots club full of enthusiasm and energy. Given the right degree of support, I'm sure it could flourish and turn into one of the better Amiga user groups.

THE HARLEQUIN GROUP & MACCLESFIELD COMPUTER GROUP

c/o The Treasure, 35 Stapleton Road, Macclesfield, Cheshire SK10 3NP. Tel: 0625 429667

The Harlequin group meet every Tuesday night at the Harlequin nightclub (what a coincidence - same name!) 68 Chestergate, Macclesfield, Cheshire. The group is now 65% Amiga users plus PCs, STs etc making up the remainder. They are a serious group with DTP, DTV, art, music and programming interests, but all members enjoy games. Club facilities include a video wall and various equipment that is loaned to members in the week or used on the night.

The group has been going for almost 10 years and produces a newsletter, organises low cost show trips, runs a PD library and offers a series of discounts on software/hardware. Members also contribute to the Harlequin video art PD disks and Harlequin help cards which were featured in a recent CU Amiga.

HEREFORD AMIGA GROUP

Alme Cottage, Allensmore, Hereford, HR1 4LU.

With an ever-fluctuating number of Amiga users, the Hereford Amiga group cater for a wide range of interests ranging from games players to professional users. The guiding principle of the club is to help Amiga users get the most out of their machines. As far as activities go, the group offer a high quality printing facility, audio and video digitising, a tuition service on most aspects of the Amiga, a technical help line, and a product testing and feedback service. There are also ambitious plans to publish a number of guide books to various programs and applications.

READING COMPUTER USERS GROUP

19 Knollmead, Calcot, Reading, RG3 7DQ. Tel: 0734 410597

You don't even have to own a computer to become a member of RUG, the Reading Computer Users Group, but I suppose it would help if you did. The group meet on the first Tuesday of every month at

Leighton Park School from 7.30pm onwards. Each meeting has a theme to do with computers and these have ranged from adventure games to word processing in the past. Anyone who is interested in joining the group is most welcome to attend - just turn up on the night or contact the club's secretary, Mike Maier, at the above address. Next meetings: 6th October, 3rd November, 1st December.

WREXHAM & DISTRICT COMPUTERS CLUB

3 Ffordd Eifed, Rhonessni, Wrexham, Clwyd, LL12 7LU.

The WADCC allow people with any make of computer to join the club, although the vast majority of them are Amiga owners. The club meets most Thursday nights at the Memorial Hall, Wrexham. Ample parking is provided in the Wrexham Baths car park. The club opens around 7pm and closes at 9.45pm (approx). The club sells sweets, chocolate and drinks as well as computer accessories such as blank disks, disk boxes and mouse mats - all at competitive prices.

The Amiga library has more than 600 disks of top quality programs and members can loan computer hardware if necessary. The club currently owns two printers, a modem, hand scanner, genlock and sound sampler. These are available to members to take home free of charge! There's also a video and book library and a PD service. Membership costs only 10 pence (!!) and entry on the night a very reasonable 50 pence.

IN TOUCH AMIGA

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ITA is a bit like a classified ads sheet on disk. There's something like 200 advertisers each issue offering all sorts of things to do with the Amiga. What's even more interesting is that it doesn't cost anything to advertise. There's no membership fee, either! The only cost to advertisers is the 95p for the original disk. This can then be updated the next issue for only 40p plus SAE. This disk-based club has real possibilities and I can see it really taking off.

Copies of the disk are sent all around the world and the international membership is growing in leaps and bounds. If you've got some gear you want to sell or are looking to buy some second hand hardware, then this is the place to look. It's also the place to sell or buy commercial software or PD games and utilities. Do yourselves a favour, and get in touch with Pete Allen, the organiser.

GET IN TOUCH!

If you run a club specifically aimed at the Amiga owner, get in touch. We'll promote your club through these pages, as well as provide a free subscription to CU Amiga. Send all entries to: Dan Slingsby, Amiga Clubs, CU Amiga, 30-32 Farringdon Lane, Farringdon, London, EC1R 3AU.

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If you've got an Amiga-related question or problem, Mat Broomfield has the answer.

I'd like to start this month by thanking everyone who's written in, especially those people who have comments to make or advice to offer. Your letters are all greatly appreciated. Many letters start out with compliments to the magazine, which of course we're happy to receive. For those of you who've asked why I don't print them, the answer is twofold: 1. It would seem really big-headed to begin every other letter with a compliment. 2. You'd sooner read the answers to more questions than reams of praise!

My mail bag seems to be getting fatter each month, and obviously this means that I don't get to answer every single letter in these pages. I do try to answer the urgent-looking ones immediately, but please remember, just because you don't get a reply this month, doesn't mean I won't respond in a future issue.

I'd also like to take this opportunity to remind you that no problem is too small or too silly for me to deal with. After all, we all have to start somewhere!

FONT EXTRAS

I've been told that it's possible to buy additional fonts for my Citizen Swift 24. Is this true, and if so, where can I get them from?

David Broach, Banchley

You can buy additional font cartridges for £41.13 each. They're available from Silica Systems, 1-4 The Mews, Hetherly Road, Sidcup, Kent, DA14 4DS. Tel 081 302 5611.

CDTV QUESTIONS

I've read a lot of hype about Commodore's CDTV, but have been unable to find out much about its basic specifications. I'm seriously interested in getting one, but is it really any good, or is it just a CD player stuck on the side of an A500?

I know that Commodore are trying to play down the computer part of the machine by calling it 'A family entertainment centre', but some of us want to know about this aspect of its abilities.

1. How fast does software load compared to a normal floppy drive or a hard drive?

2. What are the graphics like on a normal TV set? Are they much better than the A500?

3. How much RAM does it have, and is this expandable?

4. How much chip RAM can it handle? If not much, do you foresee any problems arising as a result of this?

5. I've heard that a number of A500 games won't work with the CDTV. Why?

6. How fast is the processor chip compared to the A500?

7. From what I've heard the remote controller for playing games is crap. Is there an alternative?

8. Is it possible to expand the CDTV into a work station complete with keyboard for DTP, word processing, music, etc. I ask this because of Commodore's attitude towards the word 'Computer', seeing as if it's a dirty word where the CDTV is concerned, which is strange considering that computing is their business.

9. Is it possible to connect the CDTV and a normal Amiga up to each other?

10. What do you think the CDTV should realistically be selling for?
P. Sibson, Walsall, West Midlands

I don't know the CDTV's exact loading speed, but it's slower than a decent hard drive and a bit faster than floppy disk.

Essentially, the CDTV is an Amiga with a high capacity CD player; its graphics are exactly the same as the A500's. However, thanks to the meagre storage capacity of the disks, there is the potential for graphics that would have proved too expensive in terms of disk space for an A500.

The CDTV has one Meg of chip RAM, internally expandable to two. I don't foresee this causing any problems that don't already exist on the A500. Its processor runs at 7.14MHz, the same speed as that of an A500 Plus (whose operating system it shares).

You can use ordinary mice and joysticks with the CDTV, and there are a range of additional peripherals such as monitors, disk drives and keyboards available for it, letting you turn it back into an A500! Alternatively you can connect it to an A500 using a PD program called Parnet.

It's true that Commodore did seem to forsake their die-hard computer users by trying to pitch the CDTV as something it wasn't. In my opinion, this has rightly backfired on them because the ordinary public weren't interested in it, and computer retailers felt betrayed.

Many computer users are bored with hearing the CDTV talked about in almost reverent tones, not to mention the comically late CD-ROM drive. Many have perhaps come to suspect that, based on the currently available crop of software (*Frad Fish Collection*, *Lemmings* and *Sim City* excluded), it's not worth spending £100 on, much less £499!

NEWCOMER'S QUESTIONS

As I'm relatively new to the Amiga, I was hoping that you could help me out with a few questions?

What exactly is a hard drive, and are they worth buying

for the everage games player?

Following advice to make back-up of all my original games before playing them, I've come across a number that don't seem to be copyable. Is there any way to overcome this because I don't want to have to fork out even more cash if they become damaged?

What is the RAM disk on Workbench, and how do I use it?

Can you suggest a reasonably priced word processor?
A.J. Coulson

A hard drive works in a very similar way to a floppy drive, except the disks are not removable. A floppy disk is made of flexible plastic coated with various ferrous alloys. When they spin inside the drive, a tiny read/write head actually touches the surface of the disk and information is transferred to or from the disk. A hard disk is made of rigid material, often aluminium, and again has a ferrous coating. Unlike a floppy disk, the read/write heads don't actually touch the surface of the disk. Instead they float above the disks on a cushion of air narrower than a smoke particle. Because they don't touch the disks, they can spin faster, and information can be transferred more quickly. Often hard drives contain many disks stacked on top of each other, each with their own individual read/write heads. Generally speaking, the higher the capacity of a hard drive, the more disks it has.

The main advantage of a hard disk is its increased speed and storage capacity. This is useful to games players as well as everyone else, but unfortunately the majority of arcade games can't be transferred onto hard disk, although most worthwhile strategy and adventure games can.

You couldn't back-up some games because they were probably copy protected, i.e. made back-up proof. There are commercial copiers which will allow you to make back-up copies, but their use is frowned upon by the games industry. If one of your disks should become damaged, most games companies will replace it for a small fee (between three and five pounds).

The RAM disk is an area of volatile RAM that you can read and write data to as if it were a floppy disk or hard drive. Volatile means that anything you store there will be lost if you turn the power off.

There are many reasonable word processors available, including *Scribble!*, *Kind Words 2*, *InterWord* and *Quick Write*. *Scribble!* is very basic, but easy to use. *Kind Words* lets you include graphics, but can be a bit annoying, whilst *InterWord* and *Quick Write* are more comprehensive and a little more expensive. You pay for your money, you like your choices!

OKAY OKI

I have just given an ICL/OKI Microline 192 printer, minus its cable. It has both serial and parallel interfaces at the back and I'm told that it's IBM compatible. Can I use it with my Amiga? Do I need a parallel or serial cable? Which printer driver should I use? Is there any difference between the performance of different word processors as regards the printer?

P. George, Thornbury, Bristol

Yes, you can use the printer with the Amiga, and I would use the parallel interface. Simply go to Dione or any computer shop and ask for a standard parallel printer cable.

As for a driver, I suspect that the Okidata 92 driver on the Workbench extras disk will work in all models, although it may produce a resolution far below the capabilities of the printer. The generic driver will also handle it.

Generally, there is no difference between word processors as they aren't written with specific print in mind. Having said that, *Word Perfect* does in fact have a specific driver for your printer, and would presumably render the best results.

Does anyone else have this printer hooked up to an Amiga? If so, what driver are you using, and does it handle graphics?

CODING CONTRADICTION

In the June issue, John Miles asked about the suitability of Pascal for writing games.

You said that Pascal was not capable of handling the sound and graphics and would only be suitable for writing strategy games.

Admittedly Pascal was not designed for writing games, but then neither was C or Basic. However, the Amiga was designed as a games machine and consequently extensions have been made to all three languages on the Amiga. Few programmers who have experienced Pascal (or C for that matter) would consider going back to Basic. Therefore the choice boils down to Pascal or C.

As John is familiar with Pascal already, he might like to consider buying HighSpeed Pascal from Hisoft, which is as powerful as any of the commercial C compilers. The only problem that he would encounter with Pascal is that to date all the examples given in text books are aimed towards C programmers and are therefore written in that language.

His other alternative is to buy SAS or Aztec C, and learn a whole new language. As John is already familiar with Pascal, he shouldn't have much trouble using C instead. Colin Yernall, Wilmsham, Cheshire

Thank you very much for your comments, Colin. If John is reading, hopefully your letter will enable him to make a more informed decision.

To a certain extent, I'll stand by my original comment. Although Pascal may have been adapted for use on the Amiga, it isn't designed with large-scale bitmaps or sound samples in mind.

You yourself made a more important observation though. John may already be familiar with Pascal, but the Amiga is geared towards C and 68000 machine code. There is a wealth of tutorial material available for these two languages, and even Microsoft Basic and AMOS Basic are fairly well covered. As most programmers seem to agree, the difficulty with learning new languages on the Amiga is not in mastering the language itself, but rather in how it interacts with the Amiga's immensely complex internal architecture.

Perhaps John could persevere and write his football game using Pascal, but he'll find it near impossible to locate other Amiga Pascal games programs to help him find his way around.

At the end of the day, there is nobody, with my knowledge, using Pascal to program Amiga games, arcade or otherwise.

STICKY SHELL

I'm totally useless on the Amiga and what I'm about to ask is probably really basic but please help.

When using CLI or Shell, I can't use any other disks. No matter what command I type, I keep getting told to insert the Workbench disk again. I can't get the computer to do anything when there's another disk in the drive (even blanks or the Extras disk). So what I have an active drive, so what am I doing wrong?

Craig Smith, New Zealand

Far from being a stupid question, your problem is in fact one of the most commonly encountered by people who are not familiar with the way that Shell and CLI works.

Every command that you type into the CLI window has to be loaded from the Workbench disk first. Therefore, if you insert another disk, then type a command such as DIR expecting it to be performed on the new disk, you're in for a disappointment. CLI will ask for the Workbench disk to load the command, and will usually perform the command upon the Workbench disk.

There are two ways around this problem. The first is to refer to the disk you want the command performed on by name. For example, supplying you want to find out the contents of a disk called FRED. Simply type LIST FRED:*.crums. Notice the colon (:) after the disk name. This is crucial because it tells AmigaDOS that this is the name of a disk, and not a directory (drawer) of the current device. The computer will still ask for the Workbench disk so that it can load the Lial command, but it will then ask you to insert the disk called FRED, and per-

form your command as expected.

The other alternative is to copy all of the required commands into RAM: (memory) and assign them so that the computer no longer needs to load them from disk. Suppose you want to use the DIR command on another disk, type COPY CD/DIR to RAM: <return> COPY C/ASSIGN TO RAM: <return>. This copies the DIR and ASSIGN commands into RAM. Now type ASSIGN C: RAM: this tells the computer to look in RAM: for any C commands. Of course, if you now type any command except ASSIGN or DIR, the computer won't be able to find them. When you've finished using the DIR command (or whatever), type ASSIGN C: YOURWS:C <return>. Substitute the exact name of your Workbench disk where I've typed "YOURWS". Now you know why you also copied the ASSIGN command into RAM!

EXTINCT AMIGA?

I'm becoming increasingly worried about the future of the A500. How long does music hardware and software likely to be produced for it? Is it feasible to upgrade an A500 to a virtual A600, and if so, how?

Alternatively, if I keep my 500 and decide to wait and buy the new Amiga (A800?), could I connect them together via Amibot or a similar network?

On a different subject, what's your opinion of Sound Master as a semi-pro sampler? I know does it compare to Audio Engineers Plus? I buy Dr T's KDS1 is it compatible with external RAM upgrades? Finally, is it possible to buy instructions for MED or any other PD music packages?

Gawala Hewitt, Norwich, Norfolk

With over one million Amigas sold in Britain alone, the bulk of which are A500s, I don't think you need to worry too much about its immediate future. Mind you, if the new Amigas turn out to be as good as they're rumoured to be, perhaps you won't want to keep your 500!

I know that there are a number of companies currently working on exciting new music products for the A500, including new 12 and 16-bit samplers, and a very promising range of cut-price MIDI software. As for upgrading your 500 to a 600: two of the main differences between them are the 600's PCMCIA card slot and its 2.0 operating system. You can already buy a complete 2.0 upgrade for about £200, and there are apparently two companies working on PCMCIA adapters for the 500. Needless to say, you can already add hard drives to the 500 without much trouble.

I can't guarantee that the 500 and 600(?) will be compatible enough to connect serially, but I would say that it's extremely likely that you will be able to link them.

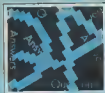
I'm not at all sure what you mean when you mention Dr T's KCS in the same breath as Sound Master and Audio Engineer. KCS is a MIDI sequencing package, and neither sampler supports MIDI in any way.

I myself use Sound Master which I can heartily recommend for all types of use from amateur deb-bling, right up to commercial sampling. It can make use of all extra chip RAM, or it can sample straight to disk. It is only an 8-bit sampler, so the quality is not as high as it could be, but in modern dances music, 8-bit samples are commonplace. It's the best Amiga sampler I've used, although to be fair, I've never used Audio Engineer or any 12 or 16-bit devices. The best thing about Sound Master is the fact that you get the superlative Audiomaster 4 software free with it.

If you've been buying CU since June, you will have noticed that we've been running a very comprehensive Octamed tutorial in the blue pages. If you prefer, you can buy a manual for earlier versions of the program direct from AmigaSoft. Most PD music programs are supplied with instructions on the disk somewhere, usually in the Docs directory.

MASTERING MACHINE CODE

I've recently purchased a copy of Healt's DevPac because I'm interested in



learning to program in 68000 assembly language

Unfortunately, I have been unable to find any good tutorial books on the subject. Can you help? Richard Moore, Hale Barns, Cheshire

There are many books on Amiga machine language, among which the *Abeacus* ones are probably the most popular. You should be able to order *Amiga Machine Language* from your local book shop.

You will soon realise that a single tutorial book is not enough, and you're almost certainly going to need some sort of additional reference books. The *Rom Kernel Manuals (RKMs)* go into great detail about the Amiga's internal operating system and architecture, and one or more of these books will be absolutely essential

ARDENT ANIMATOR

It was with immense excitement that I read your new video round-up column, where you reviewed *The Mind's Eye* from Mirmar studios. I instantly decided to try and get my hands on a copy, until it occurred to me that the US uses a different video signal to us.

Is there a version available which will work on ordinary British VCRs? Can I purchase a copy through CU Amiga, or is it alright to order direct from Mirmar?

Matt Jones, Caerhun, North Wales

The United States use an NTSC display, whilst Britain and Europe use the PAL format, and unless you own an NTSC video and TV, NTSC stuff is useless to you.

Which is why it's just as well that Mirmar have thoughtfully produced PAL

versions of their awesome *Mind's Eye* video for European users.

Unfortunately you can't buy it via CU, but Mirmar assure me that it is to be distributed throughout Britain and Europe. In the meantime, you can order direct from Mirmar in the US, but you can expect postal charges which will add as much as another \$10-20 to the price. Write first for details.

CLOCK SOLUTION

I was reading your April edition when I noticed that Miss L. Keown was having problems with her battery backed clock. I had a similar experience.

I had used a utility to set the clock but afterwards, on powering up, the computer reported that it could no longer find it (the clock). After having checked both the clock and its connections thoroughly, I opened a CLI window and typed SET-CLOCK RESET. This command resets the clock after it reboots program has (turned it off or set the last bit Sings), the clock reappeared again!

Although you were probably right in suggesting that she didn't have a clock, I thought that this might offer her another solution.

On the subject of C64 emulation: I was wondering if any of your readers can recommend an emulator that works well with games as well as Basic programs?

If you can believe their literature, the A64 package from Questronix sounds good, but I'm reluctant to send off the licence fee without confirmation.

Incidentally, it doesn't contravene the copyright laws, is there any chance of printing a wiring diagram for a 1541 interface lead? James Murray, St Leonards, Western Australia

Thanks for your advice with the clock. I wasn't aware of the SetClock Reset command, so perhaps that will be the answer to Miss Keown's problem.

Sorry, but I don't know anything about C64 emulators or disks drives, but perhaps there is a fellow reader out there who is able to help? If so, please write in to me at the usual address.

PRINTING SERVICE

In reference to Mr Gosling's plea for someone willing to print out his W/P

documents, I am more than willing to do it for him, in return for appropriate remuneration.

In fact, I would like to extend my services to any readers who require documents or monochrome art printed.

As the proud owner of a Canon BJ-10ex, I can offer near-laser quality and a resolution of 360 DPI. Anybody who is interested should phone to check prices before sending any work. Chat Dalry, 114 Love Lane, Woodford Bridge, Essex, IG8 6PH Tel: 061 505 4217.

READ/WRITE ERRORS

I keep getting read/write errors when saving animations from D-Point 3. I sometimes encounter a

DoS 10 error too. This is very frustrating since it spoils hours of work. I've tried to overwrite the previous file.

I've tried moving my second drive further from the monitor, but it doesn't help. Could it be something to do with the fact that I usually save only when D-Point runs out of memory? I only have 1MB.

On a different subject, when using Basic and other programs, I get NTSC sized screens, but when I reboot the screen returns to normal Why? Johan Ronnblom, Skellefteå, Sweden.

If your animations are very large, it could be that you simply can't fit them onto the disk, and this is causing the problem. You indicated that you're overwriting the previous file each time, and I would have thought that you should stop doing that immediately if you're having problems. Try saving your files on separate blank disks.

Of course, it's always possible that your disks have simply worn out, either through constant use, or because they were not of a particularly good quality in the first place. If this is the case, try using

new disks for your work.

Although you haven't said so, it sounds as if your computer is actually crashing when you try to save. If it isn't you can always go to the Workbench screen from D-Point and format a fresh disk to save onto. You should also be able to return to the reel program after getting a read/write error by clicking 'Cancel' in the error requester.

As for your experiences with NTSC and PAL screen sizes, some Amigas have switching hardware built into them, although I don't have a clue why you're should be doing so without you asking it. Software can be written using NTSC screen resolutions, so are you sure that what you're using wasn't intended for an American machine?

There are a number of public domain screen switchers available, so you might like to get one from the company of your choice. Provided the guilty program all load from Workbench, you should be able to switch the screen display back once the programme has loaded.

ERRANT AMIGA

I've recently purchased a second-hand

Amiga 500. A friend who knows the previous owner told me that he

split something on it. He tried to fix the machine himself by opening it and fiddling with the disk drive, but my friend said that after that incident, the previous owner's games developed viruses and wouldn't work any more.

I read in a recent issue of Q&A that somebody's Caps Lock light kept flashing. When I switch my Amiga on, the Caps Lock light flashes for about a second. In your reply, you said that a faulty Caps Lock light could cause a keyboard lock up.

I mention this because I've tried to load Wings and Microprose Grand Prix, and my Amiga won't let me type in the password codes. I I need to get my machine fixed, where do I send it, and how much will I cost?

Stephen Bromley, Stoney Stratford, Milton Keynes

There is no physical damage that you can do to an Amiga which will make it more vulnerable to viruses,

because they're software based and have nothing to do with the condition of your computer. The fact that the previous owner fiddled around with the disk drive leads me to think that either the heads were damaged by whatever liquid he spilled onto the computer, or that they were already deteriorating. It's quite possible that he has worsened the situation by fiddling because the drives are not something that users should attempt to fix unless they know what they're doing.

So far as I can see, there are three possibilities: 1. The drive heads are dirty, either as a result of spilling liquid onto them or simply through natural wear and tear. If this is the case, a head cleaner may rectify the problem. You can buy these for a couple of pounds from most computer shops.

2. The heads have become misaligned. You can buy alignment kits, but unless you're experienced, I suggest you get an expert to do the job for you.

3. Some other part of the input/output (I/O) circuitry has been damaged by the liquid. In this case you'll definitely need to get your computer looked at.

In reference to the flashing Caps Lock light, it's supposed to flash briefly when you turn the computer on. The type of problems that we were discussing earlier all result in the light continuing to flash for the whole time that the computer is switched on. I shouldn't worry about this. As for you being unable to type, the only suggestion that I have is that you haven't selected the text

requesters before typing. Have the pointer into the requester where you have to enter the text, then press the left mouse button. You should now be able to type as normal.

Amiga repairs are causing a bit of trouble at the moment. Commodore's previous authorised repair centre closed down, and main frame veterans Wang were commissioned to replace them. It's too early to assess how good a job they'll make of it, so in the meantime I suggest you scan the small ad in any magazine. Repair companies constantly advertise. Just choose the one that's cheapest or closest to you.

Replacing a disk drive can cost you up to £100, depending on where you have the work done. Most other repairs come in at between £40 and £60.

SULKY STAR

I own a Star LC200 colour printer which works perfectly until I try to use it with

Escape codes in Amiga Basic I am currently using the Epson XCBM-MPS-1250 printer driver with it. I have tried nearly every command and only a few actually work. I have noticed that the ones that don't work are the ones that start with <ESC> / CHR\$(27). For example

ASCII DECIMAL WHAT YOU TYPE
27 15 \CHR\$(27)
15 15 This works
43 65 27 15 \CHR\$(27)
CHR\$(15)
CHR\$(65)
Doesn't work!

In the above example, both commands supposedly turn condensed mode on. Please can you help? Darren Sunkley, Royston, Sunderland

Although it would seem that the answer to your problem is straightforward, the fact that two-digit Escape codes are the ones that don't work the most frequently makes me wonder...

In the first line of your example, you have used what is known as a 'Basic Control Code' to activate condensed (17CPI) printing. The mnemonic for this is simply ST, or 15 in decimal. In the second example, you then try to give the same decimal number preceded by the decimal equivalent of an Escape Code. Although I don't know the full Control Code listing for the Star LC200, I'm 95% certain that there's no such code, or indeed any escape Sequence Codes that use a value of less than 32 in the second position.

What I'm getting at is the fact that you're mixing two different types of code; there's no such Instruction as ESC ST, it is an instruction all on its own. Whilst it's true that Escape Codes usually consist of two or three sets of digits (when converted into decimal as you are doing) a more useful example

would be;

MINIMUM DECIMAL WHAT YOU TYPE
HEX 1 27 65 \CHR\$(27)
CHR\$(65)
ESC 5 27 65 \CHR\$(27)
CHR\$(65)

The above instructions are often used to turn underlining on and off respectively.

Unfortunately the Control Codes required to perform different operations vary from printer to printer, so you should check the exact requirements in the appropriate section of your printer's manual. Remember, you can't mix and match instruction types. You must stick to decimal or hexadecimal codes, and you can't mix Basic Control Codes with Escape Sequence Codes.

SMART 600?

I'm interested in the A800 smart card slot. Does it enable the user to use cartridge games specially designed for the 600?

If so, will any hardware producers release an external smart card slot for the thousands of A500 and A500+ owners? Will any software houses be interested in producing cartridge style games for the slot as a way to beat piracy?

Jeff Cronshaw, Catterline, Kirkcaldyshire

The smart card (PCMCIA) to give it its formal title) slot on the A800 promises to revolutionise the way we use and think of our Amiga. Sure, it can be used for loading games stored on credit card sized bits of plastic, but its implications are far more widespread. For example, how about a 56 meg RAM card, giving you the equivalent of a hard drive? Or the entire contents of the Fred Fish library on just one or two cards?

As I mentioned earlier, developers are already working on bringing the smart card slot to the A500 and 500+. Watch this space for further details.

Of course, it will be a good way to reduce piracy. Casual copying will be eradicated, and even the boot sale pirates will have to look elsewhere for a fast buck. Only professional pirates with access to seri-

ous duplication hardware will still be able to operate.

Strangely enough, according to Kelly Summer, Commodore's new UK MD, the company prefers to steer its future towards CD technology such as that found on the CDTV and the A570 CD ROM drive. The trouble is, apparently it takes three months to duplicate cartridge software, but only 48 hours to duplicate CDs. Of course to the professionals, CDs are easier to pirate...

COMMERCIAL PRINTING

I have been having problems with printing. Not with my Canon BJ-10ex

bubble jet, but with the Printers You know the people you go to get leaflets, etc, produced in vast quantities.

I do a lot of design work on my Amiga so I find it very easy to use. When I take my print outs to the printers, they have problems printing shades because the camera can't pick up each individual dot. They tell me that if I buy a PC or MAC, they can do it from their computer (ie PC running Page Maker, I use Pro Draw 2.0 and I was worried if it is possible to get an Amiga DOS disk to load on their machine, and if so how? The only way that I can think of, is using one of these DOS2DOS programs, or is it possible to do it with Multidos?

New York Design Studio, Sheffield

I've experienced exactly the same problems when sending Pro Page documents that have been output on my bubble jet printer. The grey shades and up looking blotchy, and the entire effect is lost. Although I've never got around to doing it, both Mac and PC based DTP/Printing bureaus are capable of importing Postscript documents. The trouble is, finding out exactly what Postscript settings they require. I suggest that you have a long chat with your printer and find out exactly what settings his machine requires/will accept. Then it's (hopefully) just a matter of using the Postscript save option from Pro Page, and putting the file onto a PC disk.

To get your files onto a

PC disk, all you'll need is a blank PC formatted disk and a copy of Masy SID or some similar PD utility. If you decide to use Multidos or DOS2DOS, ensure that you simply transfer the file without any conversion processes being applied to it.

Alternatively, I believe there are bureaus which will print work produced and saved on AmigaDOS disks, although I don't know any addresses.

Do any readers know more about this subject?

SCREWY SCREEN

The other day I was using my Amiga and I noticed the screen display was too

high (by as much as two inches on occasions), and slightly too far to the right. This is not

so bad playing games, but when I need to pull down menus it's a real nightmare. Is there a screw or something I can turn to straighten the display up? I'm using an ordinary TV with a modulator. Richard Ingman, Newton Aycliffe, Co Durham

Most TVs have both vertical and horizontal adjustment dials at the back so these may help. Another alternative is to realign the screen from Workbench, although you will need to do this for every program you run. Simply open preferences and move the screen display gadget until you're satisfied.

There are some Amiga screen modes which can place parts of the display completely out of sight. Overscan and severe overscan (sometimes called

maximum overscan) will certainly do this if you're working in an art package such as DPaint, check that you're not in these modes.

MATH NOTATION

Is there any software available, preferably PD or very cheap, that can cope with

mathematical notation and symbols for putting maths notes onto a disk? None of the word processors I've seen have this facility. Edward Wilson, Newington, Edinburgh

It depends on the level of mathematical notation you need to input. There is an Amiga font called Symbol which contains a lot of mathematical symbols such as PI, Radians, Theta and so on. However, if you're doing more advanced stuff this may not be adequate.

As I understand it, the problem with mathematical notation is not one of finding a suitable font, but rather of finding a package that will lay them out professionally. You could, of course, try loading the font into a word processor such as Wordworth or Penpal. If you have any DTP packages, there are Type 1 and Compugraphic versions of the Symbol font available for them too.

If you ever become very rich, you may be interested to learn about a professional mathematical typesetting program called AmigaTex. If memory serves, it costs at least a couple of hundred pounds and has been designed by and for graduate level mathematicians.

That's all the questions we've got room for this issue, but we'll be back again next month, same place, same colour paper! Address any queries you might have to: Q&A, CU Amiga, Priory Court, 30-32 Farringdon Lane, London, EC1R 3AU. While we'll try and answer as many questions as we can in these pages, it's not possible to send written replies, even if you do include an SAE. Sorry.

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SOUND
CHECK

Mat Broomfield continues his extensive *OctaMed Pro* tutorial. This month he shows you how to enter sheet music.

5000 YEARS OLD AND GOING STRONG!

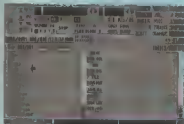
Even if you have no musical talent, you can still make music with *OctaMed Pro*. All you need is some sheet music and a bit of time. Although much computer music nowadays is entered using numbers and letters, more conventional forms of musical notation have been in use since as early as the year 3000 BC. The current system of bars, notes and staves is often referred to as 'traditional notation'. In actual fact, traditional notation originated in the 11th century AD, and was not refined into its present form until the sixteenth century. Nevertheless, it remains one of the most descriptive and expressive ways of representing music, and has become the universally accepted language for recording musical ideas on paper.

Traditional notation is very simple to understand. Although there are hundreds of rules, words and symbols available, only a minute percentage of them are needed to create music.

MY NAME IS BOND...
JAMES BOND

The best way to learn is by doing it for yourself, so let's get on with a piece of music. I've chosen the opening two bars from the James Bond theme, which I've selected because the tune is both simple and easily recognisable.

Before we can enter any notes you're going to have to load an instrument and you should know how to do that by now, so load 'pulsavib1' from the *Synthesizer* directory on the *OctaMed Pro* disk.



we gave you back in July. Now click on the notation icon in the options palette (it's the second one from the top on the right-hand side).

THE BAR EDITOR

The notation window should now fill the main part of the screen. The white bar editor runs from left to right across this window, and it contains an empty bar ready for you to enter some music. At the top left of this window, you'll see the number 000, which is the equivalent line number in the main editing window to the first note in the bar.

Immediately beneath the line number, there are two sets of staves (five lines each). Each line and



space in the staff represents a note. At the start of the top staff, you can see a curly symbol. This is called the treble clef, and if you look closely, you'll see that it loops around the second line of the staff (staff and stave mean the same thing incidentally).

The treble clef always loops around the note G (above middle C), and it denotes the pitch of all notes placed on the staff in which it appears. The lower stave starts with a figure that looks like an incomplete number '9' with two dots after it. It's called the bass clef, and in this case, the two dots always straddle the note F (below middle C). It also denotes the pitch of any notes placed upon its staff: if you know your music theory, you will know that the lines on the treble clef (starting with the bottom line), are equivalent to the notes E, G, B, D, F, whilst the ones on the bass clef are equal to the notes G, B, D, F, A. For now, suffice it to say that



notes placed on the bass clef will sound lower in pitch than those placed on the treble clef. In addition to the notes that fall on lines and spaces, there are six other notes known

as sharps and flats. On a piano keyboard, these are the black keys. You can think of sharp and flat notes as modified versions of the normal notes. In music notation, they are indicated by placing a small sharp or flat symbol in front of the note to be played.



After the clefs, you'll see the number 4/4, and this is called the time signature. It's used to specify the number of beats per bar.

After the time signature, you will see a thick black vertical bar. This is the editing strip, and it shows you where any notes will be placed when you enter them.

You can move it both left and right using the cursor keys.

THE CONTROL ICONS

Below the bar editor, there are loads of icons which let you perform different actions. These are



THE NOTE PALETTE

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five notes and five rests available to you, from a semi-quaver to a semi-brave. The shape of the note indicates how long it will play for, with each one lasting twice as long as the one to its right. A semi-quaver is the shortest note, being equivalent to one line of music in the main editing window.

At the right of the notation window, there are three sets of track controllers, labelled 'Show Tracks', 'Ghost Tracks' and 'Sel Track'. These are



used to specify the type and amount of information that you will be shown in the bar editor as you create your song. Beside each label, there are 16 boxes headed by numbers 0-15, and these represent each of the tracks that you may choose to view or edit. By default, all 16 possible tracks are shown simultaneously in the bar editor. Apart from the fact that most songs can only use four or eight tracks (unless you're using MIDI), you'll soon realise that having that many tracks on display can be awfully confusing. In this case, you have two options: you can either turn a track off entirely, by clicking on its number in the 'Show Tracks' or 'Ghost Tracks' display, or you can ghost it. Ghosting means that whilst the notes in the selected track will still be visible, they will be pale

OCTAMED

grey, and three much less intrusive. The bottom row (Select Track) is used to choose the track that you want to work on, so click D'. Underneath the Select Track gadget, you'll see a small gadget labeled Sig'. Beside this gadget, there is a number 0, minus and plus symbols and sharp and flat symbols.



Ensure that the sharp symbol is selected (it looks like a wonky hash sign [#]), then click on the plus symbol. As you do so, the number 0 should change to a 1, and in the bar editor you should see two sharp symbols appear just in front of the time signature.



We have just set the key signature for one tune. If you look closely at the sharp symbols, you'll notice that both straddle the note F. This means that unless otherwise specified every time the note F is played, it should be sharpened (played one semi-tone higher). This has the same effect as printing

a sharp symbol in front of every single occurrence of the note F.



Turn editing on by clicking the letter E in the major status bar, then go to the note palette and select a quaver (the second note from the right).



Your cursor should change into a quaver. Now place your cursor anywhere inside the editing strip.



SOUND CHECK

in the bar editor. Press the left mouse button and, keeping it pressed, move your cursor up and down

over the staves. If you look underneath the left-hand end of the rest palette, you should see the name of the current note changing as you move the cursor. When you've finished checking out the way that the notes work, move the note outside the black editing bar and release the mouse button.

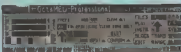
Now look at the short piece of music listed below.



You'll see that it is split into a bass and melody part; the bass is, of course, represented by the notes on the bass staff, whilst the melody is represented by the notes on the treble staff.

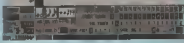
THE BASS

We'll start with the bass staff because that's the easiest. Select a crochets from the note palette and move the cursor into the editing strip. Holding the left button down, slide the cursor up and down until you see the note B-1 selected. (Please note that B



may be shown as H in your version of Octamed. If this is the case, click Misc in the options palette, then in the window that opens click H-B.)

When B-1 appears, release the mouse button, and voila, our first note is positioned! Notice that the editing strip moves along the bar ready for the next note. Now enter the next three notes in the same way. Remember to insert the notes in the editing strip. Unless otherwise told, every note that you enter should be in the key signature specified at the start of the song. In this case, only the note F should be sharpened. As you enter the fourth note, you'll see that the current bar is moved out of



sight and a blank new one has replaced it.

Now look at the music again. Notice that the first note in the second bar has a sharp symbol in front of it (the note is C sharp). This is known as an



accidental. Accidentals are any notes which do not fit within the current key signature. Enter the first two notes of this bar (C sharp, E). If you now look at the third note in the bar, you'll notice that it's preceded by a new symbol, called a natural. As you've probably guessed, the natural symbol means play the note without sharpening or flattening it. Now you might be asking why the note of C needs a natural symbol in front of it, when C is natural in the current key signature anyway? The answer is quite simple; remember that sharpened C at the beginning of the bar? The sharp symbol does more than simply sharpen a single note, it affects every other C past that point, until the end of the bar, and this is the reason why the second C had to be naturalised. Bearing this in mind, enter the remaining two notes in the bass staff.

Okay, so that's the bass staff entered. You can listen to the tune if you like. When you've heard enough (it shouldn't take long), move the editing strip right back to the beginning of our tune so that it's on the first note (the number 000 should be visible in the top left corner of the bar editor). We're ready to enter the melody of our tune now.

THE MELODY

Activate track 1 by clicking on the Sel. Track: 1 gadget. As you click on the number 1, number 0 will be de-selected. Notice that the bass track is now chosen. Looking at the first few notes of the melody, you'll see that they consist of different symbols to the crochets we've been using so far. However, they shouldn't cause you a problem because they are all available in the note palette. Enter the first four notes in exactly the same way

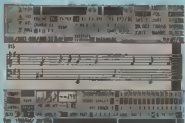




as you did when you were entering the bass. Remember that every occurrence of the note F should be sharpened. As you enter the notes you'll see that the editing snip doesn't move as far as it did when you were entering crotchets. This is because the editing snip moves in relation to the duration of the note you're entering. In other words if you enter a long note, the editing snip will move a long way, and if you enter a shorter note, it won't move as far.

If you look at the fifth and sixth notes in the treble clef (two quaver F sharps), you'll notice that they're joined together by a curved line. This is called a tie, and it indicates that you need to play the two notes as if they were only one longer note. Look at the note palette and you'll see that a crotchet is twice as long as a quaver (it's situated to the quaver's left). In this case, because we have to play two quavers as one note, it's actually easier to enter a single crotchet instead. Bearing that in mind, you should now be able to finish both bars of the melody.

When you've finished them, the bars should look like this.



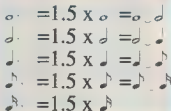
TO RECAP

Let's round off by reviewing a few basic rules of musical notation.

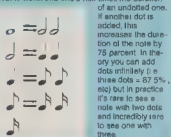
Staves/Slaves – The staff consists of five parallel lines. Notes can be placed on the lines or the spaces between them. The lines and spaces of a staff have no specific pitch until a clef is placed upon them. The two most commonly used clefs are the bass clef (sometimes known as the F clef), and the treble clef (sometimes known as a C clef). When a treble clef is placed on a staff, the lines of the staff (reading from bottom to top) represent the following notes: E, G, B, D and F. When a bass

clef is placed upon a staff, the lines represent the notes G, B, D, F and A.

Notes – Notes are represented by a series of symbols which primarily describe duration. These symbols only take on a specific pitch when placed on a staff that also contains a clef. There are six basic note durations: semi breve (longest), minim, crotchet, quaver, semi-quaver, demi-semi-quaver. Most modern music doesn't use demi-semi-quavers, and OctaMed doesn't support them. Each



note is worth half as much or double the value of the next highest or lowest one in the sequence. Sometimes notes have a dot after them. This increases their duration by 50 percent, i.e. a dotted quaver is worth one and a half times the duration of an undotted one.



Sometimes, two notes of equal pitch are joined together by a symbol known as a tie.

When this occurs, the notes are played as one with the duration being equal to the combined duration of both notes (there is no limit to the number of notes which may be tied together, but it's generally more practical to simply use a note of longer duration when lots of smaller notes would otherwise be tied together).

If two notes of unequal pitch appear to be tied together, it's called a slur. When this happens you should try to slide smoothly from one note to the other, without a definite pause between the two. You can use OctaMed's slide feature to help with this.

If you are interested in finding out more about musical notation, The Associated Board of the Royal Schools of Music publish an excellent reference book called 'Fundamentals and Theory of Music'.

It contains music theory topics ranging from the names and durations of notes right up to analysis of harmonic progression.

Although it's designed to be used in conjunction with formal music tuition, it makes a handy dictionary of musical terms and notation. Better yet, it only costs about £2.00 and should be available from all good music shops.

OOOPS!

In the August Interval, I talked about how to create your own Instruments list, and how to save it so that the list is automatically present whenever you reload the program. Sorry to say that I made a really dumb mistake which means that it didn't work as it was supposed to.

Here's the correct version. Follow the instructions for making your own Instruments list until you reach stage 6 where I told you to unprotect your original

Octamed disk. Now instead of simply clicking 5, you should absolutely insert the unprotected Octamed program disk into the Interval's drive.

New click files in the Options palette. When the Files window appears, click on the letters DPM at the right of the window. The contents of your Octamed program disk will now be displayed. Return to the Sample List by clicking SLIST in the Options palette, and NOW you can click 5 into the words Save List. This should hopefully sort the problem out, although if you want to be absolutely certain, you can also click CD under the words Save List. This will now save a sample list in the current directory (as well as the D directory). Sorry to anyone who's been pulling their hair out over my stupidity; it was late and I was tired, what can I say?

FURTHER READING

If you're having any trouble getting a grip with our superb program, you might be interested to know that AmigaSoft United publish a manual for it. In fact the manual was designed around the previous version of the program, but all of the important points are covered. AmigaSoft have also released a disc of Octamed terms which you can download to see how the program is. Of course, you can also borrow the samples from these songs if you like. The manual costs £10.00 net (no disk costs £3). You can order either of them by writing to AmigaSoft United, 105 Dale Valley Road, Hayle, Cornwall, TR27 6QX.

Arrest mentions all doubts be pleased to learn that there is a free Amiga disk magazine specially for them. See the AD/Am review in this month's PD Utilities for further details.

NEXT MONTH

Next month we'll be taking a look at the Sampler section of Octamed to see how you can record and edit your own samples. Needless to say, you will need a hardware sampler, such as Technosound, Ideal or Sound, ARA or similar.

SOUND CHECK

get real!

If you want to jazz up your samples with some realtime effects or merely want to add some reverb or echo, then Tony Horgan is here to tell you how it's done on the cheap...

IN FULL EFFECT

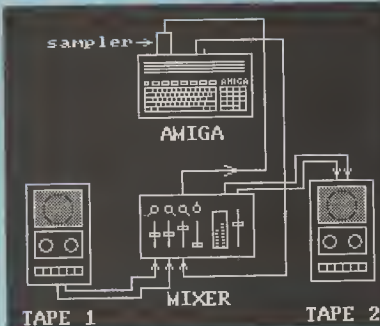
Whether it be in wildlife documentaries, rock anthems, techno 12's, radio jingles or film scores, digital effects are everywhere, especially now that digital signal processors are relatively cheap. Oops, there's that word again: relatively. That means cheaper than before, but still expensive enough to leave a hefty crater in your bank balance. Don't despair, though, we'll soon have you reverberating into the small hours, without having to spend a penny (remember, CU Amiga is always first for bladder-control tips).

THE EASY ROUTE

The obvious place to start is the EFFECTS menu of your sampling software. As well as the essential volume fader feature, any sampling package worth its salt should have at least another two effects on offer. Echoes and phasers are the most common, and getting the hang of these is just a matter of experimentation. You can't really go wrong with them in most situations, but there are occasions when you should use them with care.

Echoes on drum loops can be very effective, but they can also be disastrous. The thing to remember here is to keep the echoes in time with the beat; otherwise you'll end up with an awful mess of bangs and crashes. Phased loops can spruce up a soundtrack, but if you just phase the whole sample in one go, you'll get an audible jump when you loop back to the start. To get the phase running smoothly, affect the first half of your sample, then reverse the phase settings (invert the flange depth and length values) and effect the second half of the sound.

Maybe you fancy a different kind of echo effect



Realtime effects can be processed by your Amiga at the mixdown stage. It is likely that you will only want to process some of the sounds on the tape, so it's best to separate all of these into one half of the stereo image and use the setup as shown above.

How about an echo that leads into the sound, rather than out of it? It's extremely easy to do. All you do is reverse the sample before you echo it. Then turn the sample back round the right way, and now your sample leads in from the front with a kind of pre-echo effect.

MANUAL PHASING

If you don't have a phaser function available, you can still come up with the same effect using the mix option. Copy the sample, then highlight the wave from just after the start, then to the end. Now mix the copy of the sample back onto the original. This combines two identical sounds into one, with a slight delay on the second sound. If you've done it right, you'll get a phaser effect. If you put too much delay on the second sound, you'll get an echo. The length of the gap that you put between the two depends on the rate of your sample. Samples at higher rates need a bigger delay, and vice versa.

By altering the delay (or phase controls), you can produce a series of samples, each of which is phased slightly more or less than the next. This can be particularly handy for drum sounds. You can then sequence your sounds in order so that you get a smooth wash across your high hat line, for example.

REVERB

Strangely enough, I can't remember coming across a sampler that can put reverb on a sample. Reverb (or reverberation to give it its full name) is similar to an echo, but more subtle, giving the impression that the sound is being played in a large hall or church. It's used on just about every song you'll hear on the radio, mainly on vocals, and also on drum sounds in ambient house tunes and quirky ballads. Alternatively you can use a bit of reverb to smooth out an abrupt end to a sample.

Even though we haven't got a reverb function, we can recreate it with a simple cut and paste job. Copy the end portion of the sample, add some workspace after the sample to make room for the reverb, and paste the part you copied onto the end of the sample. Now zoom in and highlight the section you've just pasted down, and change its volume to about 20% of maximum. Primitive as it may seem, it works extremely well.

TRACKER FX

So far, we've been working with the sample editor. Once you get into MED or ProTracker, a whole new array of options open up.

The trouble with pitting echoes and reverb on the samples themselves is that the affected samples are bigger and so take up more memory. This isn't a problem if you only have a short echo, but if you want a good long one you could end up with a sample two or three times the size of the original. The alternative is to simulate the effect in your sequencer.

With some sounds, you can get away with using a single track. At the point where the sound ends, cue it again, but at about 20% of the original volume for reverb effects. While this works for most short instrumental sounds, you might have to alter the technique somewhat for longer samples. In this case, you'll need a spare track on which you can cue your echo (the same sound played more

quietly). That way, if you've got a 10-second sample you can still put in an echo before the main sound has ended.

REALTIME FX

These days, most sampling software offers a considerable range of realtime effects. Instead of manipulating samples in memory, the computer can now mimic a professional effects processor, listening to the incoming sound through the sampler cartridge and sending out its affected version through the stereo phone sockets. It does this without any detectable delay, resulting in the term 'real-time' fx.

For standard game or demo tunes, this isn't of any use, as you can't run the effects at the same time as a sequencer, unless you use two Amigas. However, if you plan to record your music, you can make use of the effects at the mixdown stage. Apart from multiple cables, you'll need either a four-track tape recorder or two standard stereo tape recorders and a mixer.

Begin by recording your tune. If you're using a couple of normal tape decks, boost the signal a bit by passing the Amiga's output through the mixer, then onto the tape deck. Make sure you keep the left channel panned right over to the left, and vice versa. For four-track cassette users, I'd recommend recording first onto tracks three and four,

keeping the left and right channels in their original pan positions.

Once you've recorded the piece, load up your sampler software. Choose the effect you want, and tailor it to suit your needs. Now connect the 'effect send' output on your four-track to the sampler cartridge. Route tracks three and four to the input paths for tracks one and two, via the effect send. Then connect the Amiga's stereo output to the 'aux receive' inputs on the four-track. You should now be able to record tracks three and four over to one and two, bringing in the effect as required with the AUX receive controls.

For those with a couple of tape decks and a mixer, the theory is just the same. Get your sample effects software running and connect the output from your first tape deck to the mixer. It's most likely that you'll only want to put an effect over certain sounds, but not others. Maybe you've got a section with a drum beat and bassline, but you only want to phase the drums. In this case, make sure the drums are on a different channel to the bass so that you can separate the two by panning the left and right outputs to opposite sides. To keep things as simple as possible, put all your sounds you want processed on the same side of the stereo image.

Let's say you want to put effects on sounds in the left pan position. Connect the left Tape Out of the mixer to the sampler cartridge. Then hook up one of the Amiga's stereo outputs to the mixer, and pan that incoming signal to the right, to avoid what would become a very noisy feedback loop. Connect the main stereo output from the mixer to your second tape deck. It might be a good idea to merge the signal here into mono with a Y adaptor.

Begin with the fader that controls the Amiga's output volume pushed right down to zero. Play the original mix from your first tape deck, and get the level of binging in the effects by raising the fader. When you've rehearsed it a few times, wind back to the start, hit record on the second deck, play the first, and away you go. ☺

SONIC STROBING

One of my favourite effects is strob-
ing. It works well with most long or
looped samples, and when used on a
sound out on its own without any
accompaniment, scores very high on
the 'in your face-a-meter'.

Alternate the volume on each line
between 04 (maximum) and 0. Then
put your sample on the same track,
and hit play. For even funkier
results, double the tempo, or the
sound strobes twice as quickly. For
a similar effect, instead of turning
the volume on and off, strobe the
low-pass filter by switching between
FFV and FFV in the command column.

If you're using MED, your choice of
tracker may also offer a different com-
mand for the filter control, so check
with the documentation.

NEXT MONTH Our musical
master, Tony Morgan, continues
his look at the musical capabilities
of the Amiga and helps you get the
most out of your sampler.



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NEXT MONTH

big changes ARE COMING TO CU AMIGA

C...C...C...CHANGES (PART 2)

That's right. From the very next issue of CU Amiga, we're going to introduce a significant new section to the magazine. In fact, we're adding an entirely new 32-page pull-out at absolutely no extra cost. How can we do this? It's simple really. Our new ABC figure of 191,923 copies sold each month means we are making more money than ever before. Not wanting to take the money and run, as some other magazines might do, we've decided to invest in CU Amiga's future and give our loyal readers more pages for their money.

So, starting with our November issue, you'll find an Amiga supplement tucked inside the magazine. Each month we'll be taking a look at a specific area of the Amiga, such as PD software, games, programming, graphics and music, and building up one of the most comprehensive guides to the Amiga ever published. Forget lorking out £20 for an Amiga guide, all you have to do is buy CU Amiga every month to get the most authoritative guides available.

The first such guide will take an in-depth look at all things PD. What is the Public Domain? Find out next month as we review and rate the top 199 PD games and all the best graphic, animation and music packages available at a fraction of commercial software prices. We'll also be interviewing some of the top teams from around Europe as well as providing a buyer's guide to the best Sherware and Licenseware offerings.

REMEMBER: This isn't a one-off promotion, we're going to be publishing these guides each and every month. In no time at all, you'll have built up the best guide to the Amiga ever published.

THE NEW AMIGA

As speculation mounts over the new range of Amigas that Commodore has waiting in the wings, we'll be adding to the furor with our own exclusive details of what this machine will be like. The future of the Amiga starts here...

GAMES CRAZY

As the Festive season approaches, more of the big games come in for review. Already, it looks likely we'll have a bumper number of titles for review in a specially extended gaming section choc full of all the latest previews, news and product tests.

VIDEO & GRAPHICS BONANZA

With the large number of high quality, high resolution graphics boards available, and the predominance of the Amiga in the field of desktop and professional video, we'll be taking a look at what hardware and software is available for everyone from the most humble and unworthy camcorder artist to the most affluent George Lucas wannabee.

READER REVIEWS

Starting next month we'll be giving YOU the chance to air your own views and opinions on the latest crop of productivity and games software. Just pop your thoughts down on paper following the general structure of our reviews, and who knows, you could have your work featured in our next issue. What's more, we'll even pay you for your efforts.

BUYER'S GUIDES

If you're wondering what to buy your Amiga-owning friends this Christmas, then read our Festive buyer's guide to find out what are our top-rated buys for Christmas. In the first part of a two part feature, we'll be taking a look at software and accessories that cost under £50!

PLUS!

TWO COVERMOUNTED DISKS

Once again, we'll be offering you the cream of the software crop, with the latest playable demos plus some of the best commercial and PD productivity software money can buy. To find out what's on offer, be here in 30 days time when we'll reveal all.

Contents may be subject to change without notice

CU AMIGA - NOVEMBER ISSUE ON SALE 26TH OCTOBER

where are they now?

As the march of the consoles continues, it's not only the Amiga that's under threat. What about the programming talent of the future? Archar Maclean sounds worried.



THE GOOD OLD DAYS

Where is the next breed of programmers coming from? I started in the early days of the Atari 400/800/800, and I can clearly remember when you could whack in a cartridge, switch a machine on and you could start programming straight away, but what have you got now? Look at the Amiga — a fine machine but near impossible to get into. What worries me is what happens when the consoles really take over. You can't program a Magistrate because it hasn't got a keyboard or a programming language. Besides which, you need a two thousand pound IBM PC and another three for a Snesim system. There aren't many bedroom programmers who can afford that kind of cash.

At the moment, let's say a software house receives thousands of disks a year in the post from budding programmers, complete with a note saying: 'Hey, here's a great version of Pac Man I wrote

these people started in the same way. With Japan ever rolling forward, you can't help but worry

AN ALTERNATIVE FUTURE

I don't see the Amiga dying for quite a long time yet. People may say now that it isn't going to last, but they said that about the C64 five years ago, and companies can still make a lot of money from selling C64 titles. No, I can see the IBM PC finally becoming a viable machine over here, within 12 months even, and before long you'll have a wide age range of PC users at one end of the market using CD drives and everything else that the PC has to offer, and an unbreakable console force at the other. The Amiga will sit somewhere slap-bang in the middle.

However, the majority of young budding coders will have their feet under the console coffee table, and until someone like my good self, a purveyor of

fine quality software (if you don't mind a quick plug?) comes along with a keyboard and a programming language for their machines, the new breed of programmers will die out.

fine quality software (if you don't mind a quick plug?) comes along with a keyboard and a programming language for their machines, the new breed of programmers will die out.

THE AMIGA AND ITS CURRENT COMPETITION

As I've already said, the PC will finally become the true force in home computers, and not before time. As prices come down, more and more people are finding it easier to get the cash together for one of these gamer's dreams. Take *Pool* for example. On the Amiga, it would be near impossible to display the balls rolling properly. If you consider that there are 88 different sizes of ball, and that the ball can roll completely in every direction, the time it would take to calculate the position of the numbers on each of the balls would render the game unplayable. If you imagine a ball being 10 pixels high on screen, the number four on one side would look a mess. However, on a fast PC that shouldn't be too much of a problem, and I'm considering implementing that.

Now that the Atari ST is finally in its death throws, Atari are fighting back with the Falcon 300. I would love to see it succeed, as you rarely get such a powerful machine at such a competitive price, but I can't see that many current owners suddenly switching to a new machine with the exception of some die-hard ST fanatics.

I really hope that they can get their marketing campaign together for once. And perhaps even commission an expensive but utterly amazing piece of demo software. After all I am only in this business because in '79 I saw *Star Raiders* on the Atari 400/800 series. That was so absolutely amazing I just had to fork out 800 pounds to buy an Atari just to play the game. Atari now need to have the foresight to commission such an impending project before it's too late. If the Falcon has thrown down the gauntlet to Commodore, then maybe they should bring out a 68040 machine (the Eagle?) and herald in a new Amiga range to compete with the best that the PC and consoles can offer. ☺

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OVERVIEW

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Real Time Digital Effects Includes:

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